

# GRAIN & FEED JOURNALS

## CONSOLIDATED

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*A Merger of Grain Dealers Journal, American Elevator & Grain Trade, Grain World and Price Current-Grain Reporter*

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# Directory of the Grain Trade

In Organized Markets Only Members of the Local Grain Exchange Will Be Listed

*HAVING YOUR name in this directory will introduce you to many old and new firms during the year, whom you do not know or could not meet in any other way. Many new concerns are looking for connections, seeking an outlet or an inlet, possibly in your territory. It is certain that they turn to this recognized Directory, and act upon the suggestions it gives them. The cost is only \$10 per year.*

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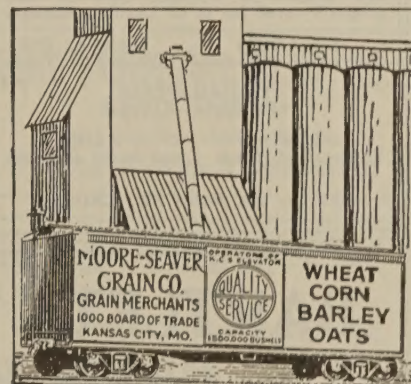
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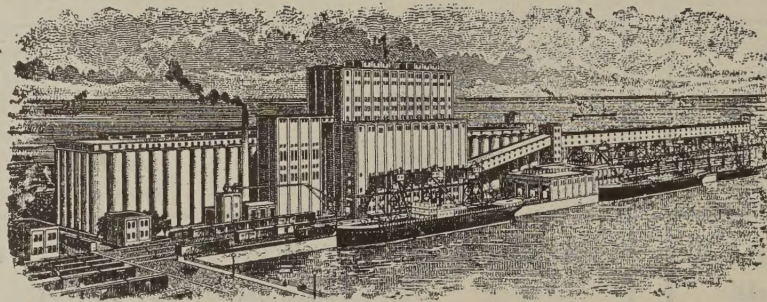
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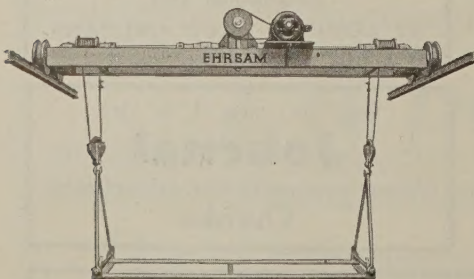
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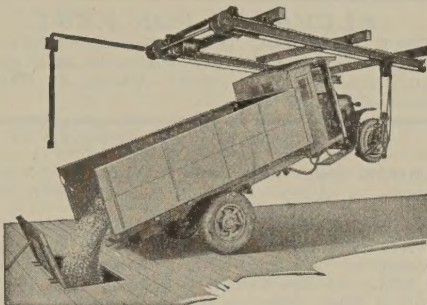
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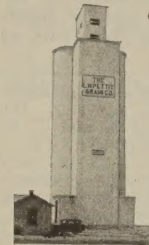
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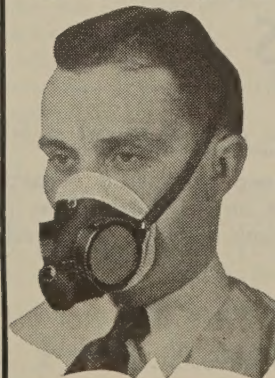
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Load of _____	
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Price _____ per bu.	Tare _____ lbs.
Driver—On. Off.	Net _____ lbs.
	Net _____ bu.
	Weighter. _____

One-fourth actual size.

## DUPOR COVER'S New Automatic Rubber RESPIRATOR



Patent 2,000,064. Revolutionary, collapsible, reversible, perfect exhale valve, comfortable face cloth and double filter chambers.

Two in one and costs less than the old type.

All dusts, paint sprays and lighter fumes.

Price \$18.00 per doz.

Upon receipt of \$1.50 one will be sent as a sample. Money will be refunded if not as represented. Extra filter pads, 1c each.

**H. S. COVER**

1937 Chippewa St., So. Bend, Ind.



# Wanted and For Sale

The rate for advertisements in this department is 25 cents per type line, each insertion

## ELEVATORS FOR SALE

**ILLINOIS**—45,000 bus. concrete elevator for sale on Santa Fe R. R. Address Box 347, Galesburg, Ill.

Whenever there is a real opportunity of interest in the grain trade, it is usually registered in the "Wanted—For Sale" columns of the Journal.

**ILLINOIS**—On account of death of partner 24,000 bu. electrically equipped elevator for sale; own land; served by C. B. & Q. and T. P. & W. R. R. Chas. E. Henry, Bushnell, Ill.

**SOUTHEASTERN WYO.**—25,000 bus. grain elevator in a good town and a good location for sale or lease. Owner has been sick and unable to attend to business for some time. Would like to sell if possible. Price and terms reasonable. W. O. Eaton, Torrington, Wyo.

On the other end of the Journal's "Wanted—For Sale" columns you will find 9,000 grain dealers anxious to know what you have for them.

**WISCONSIN**—Grain elevator, feed and seed business for sale. Located in rich agricultural section. Good barley territory. Elevator capacity 10,000 bus. Warehouse, 35x150 ft. On Milwaukee road tracks. Cleaning machinery. Write T. H. Cochrane Co., Portage, Wis.

**KANSAS** Elevator practically sold after three insertions. Here's what the advertiser writes: "We enclose check for three insertions of our ad. We have had more than a dozen inquiries from our ad and believe that we will be able to effect a sale." This proves conclusively the value of a Journal Want-Ad.

**MINNESOTA**—125,000 bus. iron clad frame cleaning and transfer elevator for sale, electric power, fast handling, good cleaner equipment. Northwestern road, a good transit point, and in good barley territory. Real bargain price. Banner Grain Co., Minneapolis, Minn.

**BARGAIN IF TAKEN AT ONCE**—Some one is always looking for an elevator at a good grain point and reads these ads just like you're doing now, so if you wish to dispose of your present property, enlarge your present interests, or embark in the grain business, USE these columns to your best advantage just as others are doing. WE WILL assist you in the composition of copy free. We are in business to be of service to YOU. There is no wrong time to put an ad in the columns of the Journal. TRY IT.

## ELEVATORS FOR SALE

**CENTRAL INDIANA**—Elevator, feed mill and residence for sale cheap; good grain and clover section. 76E12 Grain & Feed Journals, Chicago.

**INDIANA**—70,000 bu. cribbed elevator for sale in corn and oats section of Western Ind. Own site. B/4 R. R. Good price for quick sale. Address 76C2 Grain & Feed Journals, Chicago.

## ELEVATOR FOR RENT

**EAST CENTRAL ILL.**—14,000 bu. elevator for rent; electric power; Kewanee lift; poor health reason for renting. Write J. Kemp Carson, Clarence, Ill.

## ELEVATORS WANTED

**LARGE SIZE ELEVATOR** Wanted, Illinois, Indiana or Ohio. O. Hunter, 803 Fifth St., North, St. Petersburg, Florida.

**WANT TO RENT** OR buy 20 to 30,000 bushel elevator in Eastern South Dakota, Southwestern Minn., or Northwestern Iowa. Write 76E20, Grain & Feed Journals, Chicago, Ill.

**IF YOU DO NOT** find the elevator you want advertised, place your wants in the "Elevators Wanted" section and you will receive full particulars regarding many desirable properties not yet advertised.

## MILLS FOR SALE

**ILLINOIS**—Modern feed mill equipped with up-to-date machinery for sale. Located at Chatsworth, Ill. Write to Corn Belt Elevator, Fairbury, Ill.

**CENTRAL KANS.**—Water power flour and feed mill for sale, excellent local business all at mill door; mill bldg. stone 30x60 ft.; elevator attached frame and iron clad, storage for 10,000 bu. grain; plenty of room and power to increase capacity of mill. At present has a 25-bbl. midget mill, feed mixer, etc., all necessary machinery that is needed. Unless you have \$5,000 cash do not write; not for rent. Reason for selling: I want to quit milling. Arnold Brunner, Cedar Point, Kans.

## SEEDS FOR SALE

**SEED CORN**, German Millet, Sweet Clover Seed for sale. Home grown first quality seed. Allen Joslin Seed Farm, Holstein, Iowa.

**WHEN YOU** want field or grass seed, write us, and we will put you in communication with nearby dealers, who have what you seek. The service is free. Information Buro, Grain & Feed Journals, 332 S. La Salle St., Chicago, Ill.

## SITUATION WANTED

**WANT POSITION** managing elevator; 20 yrs. exper.; references; go anywhere. Write 76E10, Grain & Feed Journals, Chicago, Ill.

**POSITION WANTED** as manager of grain, feed and seed elevator with coal; years of experience; good references furnished. Write 76C13 Grain & Feed Journals, Chicago, Ill.

**DESIRE POSITION**—8 yrs. exper. manager of grain elevator. Either salary or 50/50 basis. Ohio or Ind. preferred. Can give good references. H. Westfall, Darke Co., Greenville, O.

**STOP! READ! THINK!** One advertiser writes, "Your service brought me 24 replies." We can do the same for you. Don't wait, write now.

## BUSINESS OPPORTUNITIES

**FOR SALE**—Coal Yard—Galesburg, Mich.; Grain & Coal Business—Scotts, Mich.; Transfer Elevator—Edwardsburg, Mich. White Sales Corp., Scotts, Mich.

**WHATEVER** your business may be, it will find a ready market if advertised in the "Business Opportunities" columns of GRAIN & FEED JOURNALS, Chicago. 9,800 grain men look to these columns twice each month for real opportunities.

## SAMPLE ENVELOPES

**SAMPLE ENVELOPES—SPEAR SAFETY**—for mailing samples of grain, feed and seed. Made of heavy kraft paper, strong and durable; size 4½x7 inches. Have limited supply to sell at \$2.35 per hundred or 500, \$10.00 plus postage. Sample mailed on request. Grain & Feed Journals, 332 S. La Salle St., Chicago, Ill.

## Universal Grain Code

Compiled especially for use by the Grain and Milling Trades. Reduce your telegraph tolls. Keep your business to yourself. Prevent expensive errors.

Its 146 pages contain 13,745 code words for expressions used in the grain trade, printed on bond paper and bound in black flexible leather. Size 7x4½ inches. Price, leather, \$3.00; paper, \$1.00, f. o. b. Chicago.

## GRAIN & FEED JOURNALS

Consolidated

332 S. La Salle St., Chicago, Ill.

## KEEP POSTED

### GRAIN & FEED JOURNALS CONSOLIDATED

332 So. La Salle St., Chicago

A consolidation of Grain Dealers Journal, American Elevator & Grain Trade, Grain World and Price Current-Grain Reporter.

**Gentlemen:**—In order to keep us posted regarding what is going on in the grain and feed trades outside our office, please send us the *Grain & Feed Journals* twice each month. Enclosed find Two Dollars for one year.

Name of Firm.....

Capacity of Elevator.....

Post Office.....

State.....

## SAMPLE PANS



Made of sheet aluminum, formed by bending, reinforced around top edge with copper wire. Strong, light, durable. The dull, non-reflecting surface of the metal will not rust or tarnish; assists users to judge of the color and to detect impurities.

Grain Size, 2½ x 12 x 16½", \$2.00

at Chicago.

Seed Size, 1½ x 9 x 11", \$1.65

at Chicago.

## GRAIN & FEED JOURNALS

CONSOLIDATED

332 So. La Salle St., Chicago, Ill.



## Cipher Codes

**Universal Grain Code:** Most complete, up-to-date grain code published. Effects a greater reduction in tolls than any other domestic code. 150 pages, 4½x7 inches. Price, leather, \$3.00; paper, \$1.00.

**Robinson Telegraph Cipher Code:** Revised with all supplements, for domestic grain business. Leather, \$2.50; cloth, \$2.00.

**Dowling's Grain Code for Grain Milling and Produce Trades,** 6th edition: Used extensively in Western Canada. 154 pages, 4¼x6¾ inches. Weight 4 ozs. Price \$3.00.

**Millers Telegraphic Cipher:** (1927) For the milling and flour trades. 77 pages, 3¼x6 inches. Cloth bound. Price \$2.00.

**Cross Telegraphic Cipher:** 10th edition revised for provision and grain trades. 148 pages, 4½x5¼ inches. Cloth \$4.00.

**A. B. C. Improved Fifth Edition with Sup.:** Reduces cable tolls 50% thru use of five-letter words, any two of which may be sent as one. In English. Price, \$20.00.

**Bentley's Complete Phrase Code:** Contains nearly 1,000 million combinations, any two of which can be sent as one word. Thru its use a saving of 50% can be effected in cablegrams. 8¼x10½ inches. Leather back and corners. \$10.00.

**Peerless Grain Code for international grain and feed trades.** 300,000 different offers expressed by one half codeword combining Destination, Time of Shipment, Quantity, Quality and Price. 10,000 complete Phrases relate to Export grain trade. Private Supplement contains 3000 blank code words. Price \$85.00.

**Baltimore Export Cable Code:** Hinrich's fourth edition, completed especially for export grain trade. 152 pages, 6¼x9 inches, bound in leather. Price \$15.00.

**Riverside Flour Code, Improved (5 letter revision):** Sixth edition. For use in domestic and export trade. Size 6x7 inches, 304 pages. Bound in flexible leather, \$12.50.

All prices are f. o. b. Chicago.

**GRAIN & FEED JOURNALS**  
Consolidated

332 So. La Salle Street CHICAGO, ILL.

## Railroad Claim Books

require little of your time for filing, and contain spaces for all the necessary information in the order which assure prompt attention on the part of the claim agent. They increase and hasten your return by helping you to prove your claims and by helping the claim agent to justify payment.

**A is for Loss of Weight in Transit Claims.**  
**B—Loss in Market Value Due to Delay in Transit.**

**C—Loss in Quality Due to Delay in Transit.**  
**D—Loss in Market Value Due to Delay in Furnishing Cars.**

**E—Overcharge in Freight or Weight.**

These claim blanks are printed on bond paper, bound in book form, each book containing 100 originals and 100 duplicates, a two-page index, instructions and summary showing just which claims have not been paid, and four sheets of carbon.

The five forms are well bound in three books, as follows:

411-A contains 100 sets all Form A. Price, \$2.00. Weight 3 lbs.

411-E contains 100 sets all Form E. Price, \$2.00.

411-5 contains 60 sets Form A, 10 Form B, 10 Form C, 10 Form D and 10 Form E. Price, \$2.00.

**Grain & Feed Journals**  
CONSOLIDATED

332 South La Salle St. Chicago, Ill.

## MACHINES FOR SALE

**CORN CUTTER & Grader**—has motor—used very little. 76D6 Grain & Feed Jnls., Chicago.

**FEED MIXER**—one ton—floor level feed—has motor—good as new. Write 76D8 Grain & Feed Journals, Chicago, Ill.

**HAMMER MILL** with 25-h.p. motor and all attachments. Priced to sell. Write 76D7 Grain & Feed Journals, Chicago, Ill.

**FEED MIXER** for sale, has motor, and a late machine. Need space. Will sacrifice. Write 76D5 Grain & Feed Journals, Chicago, Ill.

**WELLER FRICTION** clutch and pulley for sale, 2-3/16" bore, 48" dia. pulley, 9" face, in good con. N. W. Mattix & Son, Frankfort, Ind.

**TRUCK DUMP** and scales, sheller and cleaner, Richardson automatic scale, hammer mill and a portable priced to sell. W. W. Pearson, West Point, Ind.

**EDTBAUER DUPLEX** Automatic Net Weighing Scale for small sacks or packages. Good as new. Bargain at \$95.00.

Mayer Bros. Mill, Bellefonte, Pa.

**BLUE STREAK**, 40-h.p. hammer mill for sale complete with magnetic separator; rebuilt like new; has dust collector, piping and six screens. B. L. Lee, Monmouth, Ill.

**BAUER BROS.** 24-in. attrition mill for sale, complete with two 20-h.p. motors, starter and feeder. Also one cracked corn machine and three small elevators. Write P. O. Box 425, Portland, Ind.

**ATTRITION MILL**—Bauer 24" equipped with two 20-h.p. 220 volt A.C. electric motors, with starter. Good condition. Price \$350 cash. Rockford Electric Equipment Co., 728 South Wyman St., Rockford, Illinois.

**BARGAINS**—S. Howes bran packer, Sprout Waldron No. 1 corn sheller, Sidney corn sheller, Monarch 16-inch B. B. Attrition Mill, 60 bu. hopper scale, Unique crusher, spiral conveyors, etc. For further information and prices write Mayer Bros. Mill, Bellefonte, Pa.

**MIDGET MILL** Bargain—40-bbl. Midget Marvel flour mill outfit complete with unique double scourer, Anglo separator, Columbian feed governor, dust collectors and all necessary shafting, pulleys, bearings, belting, elevators and spouting. We will sell with or without 30-h.p. motor. This equipment guaranteed to be in 1st class condition. Priced right. For further information write or call

Mayer Bros. Mill, Bellefonte, Pa.

## MACHINES WANTED

**50 OR 60 GOOD** Sliding form screw jacks wanted. A. Clemens Const. Co., So. Solon, O.

**MACHINERY FOR A 100 barrel flour mill** wanted. Must be in good condition. Pampa Milling Company, Pampa, Tex.

**A GOOD USED NO. 16** clipper clover seed cleaner wanted, with or without motor. C. G. Wolf, North Liberty, Ind.

**USED ONE-HALF TON** Vertical feed mixer wanted with or without motor. Belshaw Farmers & Gleaners Elevator Co., Lowell, Ind.

**GOOD USED 200-250 bu.** per hour combination corn sheller and cleaner wanted, without motor. Haldeman-Baum Co., Akron, Ind.

**USED VERTICAL FEED** mixer wanted, 1 or 1½ ton, floor level; two 5-h.p. motors and starters; one cracked corn grader; one platform scale. Menno Mfg. & Gr. Co., Menno, S. D.

## ENGINES FOR SALE

**ONE WAUKESHA** 4 cylinder 80-h.p. power unit for sale. A-1 condition. Sark & Plum, Inc. Lilly Chapel, Ohio.

## RAT EXTERMINATOR

**RAT LUNCHES**—Kills rats and mice without poison. Ready to use. Just lay them out. Endorsed by agricultural authorities. \$1 large package—\$3.50 a carton prepaid. Salesmen-Distributors wanted. Rat Lunches Co., Carroll, Ia.

## MOTORS FOR SALE

**ELECTRIC MOTORS**, Generators, Air Compressors, engines, pumps, all makes, types and sizes. All completely rebuilt, One Year Guaranteed and attractively priced. Write us on your requirements. Rockford Electric Equipment Co., 728 South Wyman St., Rockford, Illinois.

**DYNAMOS AND MOTORS WANTED**—Buyers and this equipment are reached in largest numbers and at the least expense through the use of the "DYNAMO-MOTORS" columns of Grain & Feed Journals—the medium for power bargains.

## CORNS CONVEYOR BELT CO.

GRIFFITH, INDIANA

Can rebuild your old belting, and save you money on new Conveyor, Elevator or Transmission Belting.

May we quote you prices?

## Scale Ticket Copying Book

Contains 600 original and 600 duplicates of form shown herewith. Four originals and four duplicates to each leaf. Printed and perforated so outer half of sheet bearing originals may be folded back on the duplicate, thus giving an exact reproduction of all entries on the original. Leaves are machine perforated between tickets so they may be easily removed without tearing.

Printed on bond paper, check bound, in heavy board covers, size 9½x11 inches, and supplied with 6 sheets of No. 1 carbon. **Order Form 73. 150 pages. Price \$1.30, plus postage.** Weight, 2¼ lbs.

Cash with order for twelve books earns 10% discount.

Send all orders to

**Grain & Feed Journals Consolidated**

332 So. La Salle St., Chicago, Ill.

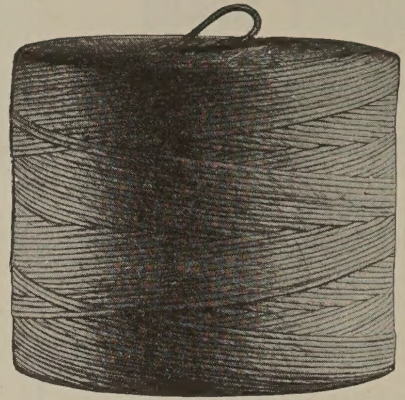
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	Net _____ bu.
	_____ Weigher

Three-Fourths Actual Size)



# GOOD REASONS

## *Why It Is Easy to Earn Greater Twine Profit Selling* **INTERNATIONAL TWINE**



High quality means satisfied customers.

Full stocks at International Harvester branches  
—not necessary for you to carry a big supply.

The International Harvester name and reputation stands behind every ball of International Twine.

International Twine is guaranteed for length, strength, and weight. Treated against destruction by insects.

Farmers using McCormick-Deering Binders prefer International Harvester Twine.

You'll find it an easy matter to place a good volume of this high-quality twine among your friends and customers, *at a good profit*. Drop a line to the nearest branch house, or direct to us at Chicago, and we will have an International Harvester traveler call on you and give you full details.

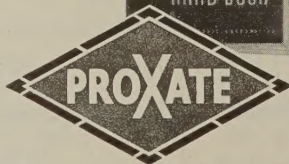
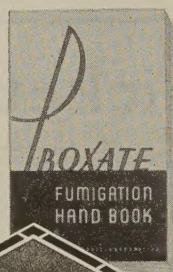
**INTERNATIONAL HARVESTER COMPANY**  
(INCORPORATED)  
606 S. Michigan Ave. Chicago, Illinois

# INTERNATIONAL TWINE

## *Valuable Infestation Data!*

The Fumigating Handbook is filled with helpful and interesting data on protection against the ravages of insect infestation. It explains the advantageous properties of the new safe fumigant, Proxate:

—HOW it seeps quickly through grain, kills all forms of insect life, and at the same time actually sweetens and aerates grain that has been kept in storage for some time; WHY it is safe, non-poisonous to humans, non-inflammable, and non-explosive, and WHY we can guarantee Proxate fumigation service. And, IN ADDITION, you will find much general information of real value to those connected with the storage and handling of grain and the manufacture of food products.



Write for copy of this Fumigation Handbook. It's concise, yet contains identifying illustrations of most of the insect pests which infest stored products. Ask us about our Atmospheric Chamber for package and bag fumigation.

### THE LIQUID CARBONIC CORPORATION

3100 S. Kedzie Ave.

Chicago, Illinois

Branches in 37 Principal Cities of the United States and Canada  
London, England Havana, Cuba

## "JAY BEE" The World's Standard Grinder

Over  
20,000  
in  
Use



**For Capacity,  
Durability and Economy**

Bossert, the World's oldest and largest makers of hammer mills, have built into the "JAY BEE" all-steel grinder unequalled endurance and performance. Twenty years' experience have proved the soundness of their policy: the best material and workmanship that scientific engineering skill can produce. This is the reason why the "JAY BEE," everywhere, is the preferred grinder.

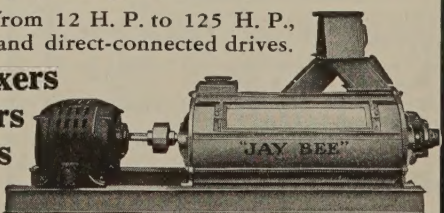
Sizes and styles from 12 H. P. to 125 H. P., with belt, V-belt and direct-connected drives.

**Molasses Mixers**

**Corn Crackers**

**Batch Mixers**

Write for detailed description, prices, terms



**J. B. SEDBERRY, Inc.**

**JAY BEE SALES CO., Kansas City, Mo.**

**Dept. 76, Franklin, Tenn.**



# GRAIN & FEED JOURNALS

INCORPORATED

322 S. La Salle St., Chicago, Ill., U.S.A.

Charles S. Clark, Manager

A merger of  
GRAIN DEALERS JOURNAL  
Established 1898

AMERICAN ELEVATOR &  
GRAIN TRADE  
Established 1882

THE GRAIN WORLD  
Established 1928

PRICE CURRENT—GRAIN REPORTER  
Established 1844

Published on the second and fourth Wednesdays of each month in the interests of better business methods for progressive wholesale dealers in grain, feed and field seeds. It is the champion of improved mechanical equipment for facilitating and expediting the handling, grinding and improvement of grain, feeds and seeds.

SUBSCRIPTION RATES to United States, Canada and countries within the 8th Postal Zone, semi-monthly, one year, cash with order, \$2.00; single copy current issue, 25c.

To Foreign Countries, prepaid, one year, \$3.00.

THE ADVERTISING value of the Grain & Feed Journals Consolidated as a medium for reaching progressive grain, feed and field seed dealers and elevator operators is unquestioned.

Advertisements of meritorious grain elevator and feed grinding machinery and of responsible firms who seek to serve grain, feed and field seed dealers are solicited. We will not knowingly permit our pages to be used by irresponsible firms for advertising a fake or a swindle.

LETTERS on subjects of interest to those engaged in the grain, feed and field seed trades, news items, reports on crops, grain movements, new grain firms, new grain elevators, contemplated improvements, grain receipts, shipments, and cars leaking grain in transit, are always welcome. Let us hear from you.

QUERIES for grain trade information not found in the Journal are invited. The service is free.

CHICAGO, ILL., MARCH 11, 1936

MANY changes in the management of country elevators during the last year has made old mailing lists worthless.

IF YOU want a farmer patron to have confidence in the fairness of your bids or posted prices for his grain do not permit him to cajole you into raising your bid.

CORN stocks in central markets, according to the weekly visible supply reports is shrinking so rapidly we must soon call upon South Africa and Argentine Republic for liberal shipments.

UNDER the soil conservation act as passed the grain trade will have no fear that government money will be turned over by the Sec'y of Agriculture to corporations ostensibly to dispose of surpluses. The La Follette amendment empowering the Sec'y to divert public money to the injury of the regular trade was rejected by the House, which action the A.A.A. should consider a mandate not to do so.

SOME large country elevators have been successfully moved long distances to other shipping stations so few are now wrecked to move them.

COUNTRY marketings of ear corn according to reports from many parts of the corn belt continue to contain an unusually high percentage of moisture, emphasizing the necessity for close watching and early shipment.

ARGENTINE corn growers are planning to swamp their government with maize under the price guaranty that holds good until Apr. 1, 1937. Will the government corn be burned in 1937 as was much of the Brazilian government's 1935 coffee?

CREDIT carelessly extended to tenants and others of unknown responsibility has helped to fill the ledger of many a confiding grain elevator operator with slow accounts. Some have suffered such heavy losses through extending credit promiscuously they have been forced to advance their prices and give a liberal discount for cash.

THE CORN BORER quarantine may well be abandoned, as it costs more to enforce than it is worth, according to the Illinois chief plant inspector. The borer does not thrive far from the moist air of the Great Lakes; and Michigan scientists have succeeded in developing a strain of corn immune to corn borer attack, as described elsewhere in this number.

DRIVEWAY DOORS long suspended on heavy hinges are wrecked so frequently by the wind, we wonder that country elevator men have not long since abandoned these relics of the horse and buggy days and installed neat, strong, easy-working canopy or overhead doors that are wind proof. Eventually every elevator driveway will be so equipped at both ends.

REPORTS from any source on "intentions" to plant grain will be of less value than usual this year because of the low germination of the seed obtainable. Even tho farmers do plant a specified acreage as planned the acreage harvested will fall far short of that planted. Far sighted grain dealers will help their farmer patrons to obtain dependable germination tests of all seeds.

THE DISTRIBUTION of the cash collected for the enforcement of the country grain elevator code among the original subscribers as well as the return of the processing taxes to producers and consumers who contributed the funds would necessitate much unproductive work and satisfy no one. These magical cures for depression have cost all cooperators most dearly without helping anyone but the meddling bureaucrats. What next?

NUMEROUS reports of the installation of feed mixers gives convincing proof that country elevator operators are enjoying a growing feed business.

FALLING stacks of bagged feed injured employes of an Iowa plant on two different occasions recently, indicating that a radical change in the manner of stacking the filled bags is in urgent need.

PLEASE tell us what improvements you will make in your grain handling facilities this spring. What equipment will you install, what additions or alterations will you make in your structure?

NUMEROUS reports of theft and burglary from offices and bins of country elevators emphasize the necessity of taking greater precaution to safeguard elevator property from midnight marauders.

FIXED charges for storage of grain in country and terminal elevators regulated by such laws as that enacted recently by the Illinois legislature are a hazard that may penalize warehousemen in the event of inflation of the general price level.

THE POTATO control that died almost before it was born served one useful purpose. The government stamps that were to have been placed on packaged potatoes by farmers now are prized by philatelists as a curious addition to their collections.

SO MANY elevators are burned as the direct result of being struck by lightning one would naturally expect every grain storehouse to be fully protected by standard lightning equipment and insured. The mutual fire insurance companies allow such a liberal credit for lightning protection, rods earn their cost in a few years.

SIDELINES of country elevators have been pushed so earnestly by many hustling managers the profits accruing have exceeded the returns from the grain business. The observing merchants who have sensed the needs of the community, stocked good merchandise and kept prospective customers fully advised on the merits of the commodities carried have often won new patrons for the grain department.

ELEVATOR OWNERS who spout dust or cobs from cupola to dust house or to cob burner or storage house owe it to themselves to take the precaution to install an automatic cut-off valve in spout between cob burner or dust house and thereby minimize the chance of fire being communicated through spout to cupola of elevator. The expense of installing the valve is so small, every owner should be glad to provide this protection.



SCRAPPING the A.A.A. should encourage all farmers to use their fields for the production of the crops they know them to be best suited.

THE GREATEST menace threatening the grain trade today is the swindling truckers urging farmers of all sections to buy untested seeds of unknown origin. Unless your farmer patrons plant good seed they have small chance of harvesting much grain. Warn them against the fakers, see that they are supplied with tested seed and thereby help them and your own business.

JUDGING FROM many reports reaching us, every country elevator man contemplates making more than usual repairs, improvements and additions to his plant this year because of the expected increase in his volume of grain to be marketed. In making such repairs, the cautious elevator owner will employ a licensed contractor who carries liability and compensation insurance and thereby protects the grain dealer from unexpected claims arising from accidents.

DERAILED CARS at Oklee, Minn., and Wellsburg, N. D., recently resulted in damage to elevator companies' buildings and again brought to the attention of elevator owners the advantage of insuring their property against destruction by such an accident. While ice and snow have been contributing factors to the derailling of cars in the Northwest the past winter, cars are derailed every month of the year in nearly every state of the union, so the derailed freight car provides a hazard for the elevator on railroad right-of-way that is perpetual.

COMPRESSOR TANKS of truck dumps have exploded at such inopportune times as to injure and scare the wits out of some elevator owners' best customers. Insurance against liabilities resulting from the explosion of these tanks is not expensive. In fact, it is so cheap no grain merchant can afford to be without it. While the chance of an explosion may be materially reduced by buying stronger tanks and testing them occasionally, still the chance of an explosion is sufficient to justify an insurance policy against claims for injuries and damages.

GIVING free storage for farmers' grain has lured so many grain elevator operators into involved financial difficulties keen observers naturally expect cautious grain buyers to avoid this treacherous trap.

LEGISLATION authorizing interference with railway management by politicians having no regard for the welfare of shippers or the protection of stockholders seems to be an admitted failure.

CHICAGO'S city council has been unable to impose its will on the Minneapolis and Kansas City exchanges; and the Chicago Board of Trade members will have the laugh on the city fathers next winter when all but the grain merchants will have to begin the day's work in darkness.

ONE GREAT disadvantage of building a grain elevator or even a corn crib in a residence district is that neighbors generally find real joy in complaining of the dust and the dirt. The installation of a modern dust collecting system can be depended upon to quiet their objections.

LUMBER so fire resisting that it actually stands as a barrier against fire and prevents its spread is a recent scientific invention. Wood so treated by the process of the Protexal Corp. can be worked easily, takes paint and varnish and seems equal to the untreated wood in every respect. Elevator builders will be pleased to learn that this new process has been approved by the Underwriters Laboratories, Inc.

TWO RESULTS OF the prolonged siege of low temperatures throughout the grain belt have been reflected in our news columns recently. A number of fires were started in elevator offices by overheated stoves, which, of course, could have been prevented had the stoves been surrounded with metal shields or closer attention given to drafts. One other development that was welcomed by the elevator men of the corn belt was an unusually active demand for cobs, and instead of giving away cobs, many elevator operators sold them at 75 cents to one dollar per load.

AS JACK FROST is released from the earth he will no doubt destroy the accuracy of many truck scales and make early inspection and resealing necessary to correct weighing. The cautious elevator operator will not take chances.

TRYING to shift a belt to a moving head pulley has cost the lives of two Illinois elevator operators recently. These lessons in belt shifting are so distressing we trust all the antique head drives will soon be displaced by modern drives that save power, lives and limbs.

THE NATURAL Business Year, for any particular enterprise and its individual units is that period of twelve consecutive months which coincides with the annual cycle of operations of that enterprise. Generally the Natural Business Year will end when the business activities of the enterprise are at the lowest point in their annual cycle and when inventories, receivables, and liabilities are reduced to their annual minimum. The natural business year for grain dealers would be the crop year. When the old crop is shipped out and most of the accounts are in balance it is easy to make a cutoff.

## Handicapping the Elevator with Small Scales

Country elevator operators who are still using old style small capacity wagon scales to weigh large truck loads of grain owe it to themselves and their patrons to post large signs at the entrance to their scales warning drivers against driving onto scale platform with a load in excess of the scales capacity. While such a sign of warning might not relieve the owner of the scale from liability for injuries to the driver and for damages to the owner of the truck, still the sign would serve as convincing proof of the good intentions of the scale owner.

The safer way would be to replace the old scale with a new modern truck scale of at least 20 tons capacity on a substantial foundation. A number of 30 ton truck scales and some 40 ton scales were installed last year. Progressive elevator operators are recognizing the drawing power of fast, safe and convenient receiving facilities so are installing rapid handling and shipping facilities as well as large capacity truck scales for attracting farmers from more distant points. The efficient farmer of today is not content to market one load a day, he is eager to rush back home for another and another load, and the grain buyer who speeds up his receiving facilities helps the farmer to expedite the work of marketing his products.

One of the great lessons of life is to learn not to do what one likes, but to like what one does.

Hugh Black.



## Bad Influence of Political Immorality

Fears have been expressed that the example set by the legislators at Washington in repudiating solemn obligations may corrupt the citizenry by inculcating a similar disregard for private agreements. Certain it is that many citizens are accepting tainted money, wrung from the public under false pretenses.

A fair example of evading honest principles is the enactment of the soil conservation bill, a bill that has two prime purposes, both forbidden by the constitution, one being the control of production and the other the coercion of farmers by withholding benefits payments from those who run their farms to suit themselves. Altho the federal government is without power to control production and the Supreme Court has said so, the Congressmen lose no time before enacting a similar bill under another name.

It remains to be seen how long the new Act can be enforced without coming before the Court to be again thrown out.

## The Advantages of Dust Control

One of the most encouraging signs found among country elevators today is the attempts on the part of operators to remove dust at every opportunity and blow it out of the house, thus not only reducing the dust explosion hazard, but providing a clean house for the operators and maintaining conditions that are most repugnant to all grain infesting insects. Piling dirt and dust in cupola or any dark corner establishes a veritable paradise for weevil.

Many elevator men have greatly handicapped their attempts in attaining cleanliness by installing fans so small as to be of little service. If dust control is to be obtained, a blower must be provided of sufficient size and power to take dust out of legs, heads, boots and spouts, and force it out of the house, thus reducing the bug and the fire hazard, as well as improving the working conditions throughout the plant.

The expense of installing and operating an efficient system for removing dust from the elevator is so small, and the results so desirable, that no elevator owner who has witnessed the work of such an installation will continue to operate his elevator without installing a blower large enough to rid his house of the dust and dirt.

The elevator operators of the Pacific Northwest established a record last year by installing blowers in over fifty elevators and more will be installed this year.

## Seeking More Power Over Markets

Dispatches from Washington credit the head of the Grain Futures Administration with demanding more power to regulate those who have the courage to deal in farm products for future delivery, and in support of his demands assures the House Committee that "a great deal has been accomplished." He doesn't admit it, although he knows that his snooping activities have driven many buyers out of the farmer's market. No farmer cares a rap who buys his products, but he is interested in getting the top of the market on every sale. The buyer may wish the product for speculation, for feeding the furnace or burying a bureaucrat. With all this, the farmer is not concerned.

Ages before the organization of self regulated public markets and long before the government attempted to participate in their regulation, neighbors often sold farm products of like kind and quality at widely varying prices because neither buyer or seller enjoyed the guidance of prices paid by others. The establishment of well regulated public markets has helped all concerned to learn definitely of the existing demand and supply of the product dealt in and the prices at which each sale is made.

The prompt collection of authentic information by an organization of trained experts has helped the world to keep posted regarding all possible outlets for food and thereby stimulated the brokers of the world to seek supplies and furnish them promptly where and when needed.

The bureaucrats overlook and probably intentionally ignore the service rendered by the public markets. They are interested first, last and all the time in enlarging the activities of their bureau, board or commission so that they may employ more clerks and thereby provide stepping stones to a larger salary for themselves. Business is suffering from entirely too much regulation, limitation and interference from bureaucrats whose knowledge and experience are foreign to the needs of commerce.

No product has ever been marketed on such a narrow margin as grain and livestock. Yet the ubiquitous bureaucrats have by degrees through regulations, limitations and surveillance doubled the cost of marketing these products. They have driven many out of the farmers' market and done more to injure the farmers' interests than was ever charged against the price boosting speculators. When the farmers of the land get a clearer understanding of the machinery employed in getting their products to consumers, they will resent most bitterly the long and destructive interference of the bureaucrats with the most efficient, most

economical grain marketing facilities to be found in the world.

While the self-seeking bureaucrats may persist in claiming wonderful results for their attempted strangulation of business, when the survey of the actual results attained is finally made, it will be found that they are a far greater curse to commerce than the speculators they strive to strangle. The speculator in any food product should be encouraged by all interested in that product because, he assumes the hazards of ownership and helps the producers to carry the surplus at his own expense and risk until the consumers demand it. The bureaucratic barnacles on commerce help no one but themselves.

## Anti-Discrimination Law in Court

The Fulton Farmers Elevator Co., G. I. Johnson, mgr., filed complaint with the Railroad Commissioners of South Dakota that the Cargill Elevators, Inc., paid more for grain at Fulton than at Spencer and Letcher, the quality of the wheat being the same and the cost of transportation to market being the same, allegedly for the purpose of destroying the Fulton Farmers Elevator Co., in violation of the law against discrimination, Chap. 260, laws of 1925.

The Cargill Elevators, Inc., petitioned the U. S. District Court of South Dakota for an interlocutory injunction declaring that a revocation by the Board of Railroad Commissioners of South Dakota of the licenses held by the plaintiff, because of the alleged violation by the plaintiff of the terms of Chapter 260 of the Session Laws of South Dakota for 1925, would be an act beyond the scope of the authority conferred by law upon such Board of Railroad Commissioners; and contending that Chapter 260 of the laws of South Dakota of 1925 is unconstitutional in that it conflicts with the commerce and due process clauses of the Constitution.

A temporary injunction was granted Feb. 24, by the court at Sioux Falls.

## Used Fictitious Warehouse Receipts as Collateral

Paul Patrick owned and managed three wheat warehouses under the fictitious name of Fred Schwab Commission Co. Altho no wheat was received Patrick in January, 1932, issued a receipt for 5,515 bus. wheat to his brother, Gordon D. Patrick, who executed a promissory note for \$1,790.26 payable to the First National Bank of Ephrata, Wash., which note was used as an asset in an application for a loan from the Reconstruction Finance Corporation. Later Patrick became president of the bank and with L. A. Nixon as cashier signed a second application for a R. F. C. loan using the same note. When it came due Aug. 15, 1932, a new note was executed by Gordon and Patrick had a new negotiable warehouse receipt issued by the Fred Schwab Commission Co. This note was discounted by the Federal Reserve Bank at Spokane.

In October, 1932, Patrick issued negotiable warehouse receipts for wheat to two employees who executed notes payable to the First National.

None of them had wheat in the warehouses and acted solely as dummies for Patrick.

Patrick was convicted on 6 counts for using the mails to defraud, misapplying funds, making false entries in the books of a national bank and making false statements for the purpose of obtaining a loan, and was sentenced to five years in prison.—U. S. Circuit Court of Appeals. 77 Fed. Rep. 442.



## Asked—Answered

[Readers who fail to find trade information desired should send query for free publication here. The experience of your brother dealers is worth consulting. Replies to queries are solicited.]

### Another Collection (?) Company

**Grain & Feed Journals:** The latest experience we have had with collection agencies is with the Affiliated Underwriters Loan & Finance Co., Inc., 1515 Sherman Ave., Evanston, Ill. Jos. Waggoner, representing and showing credentials from this company, solicited our unpaid accounts to be collected on Sept. 12, 1935, and gave us a receipt for the 15 accounts that we turned over to him, on the 13th. On the receipt he wrote "You get 75 cents on the \$1.00." The receipt shows "15 accounts for which we agree to pay according to terms of assignment."

Mr. Waggoner told me that his company would buy the accounts outright at 75 cents on the dollar. But I note that the contract does not so specify. A copy of the contract that we signed is attached.

Presumably from the statement of the agent we were to have settlement for these accounts within 90 days. But beyond minor correspondence on two of the accounts we have heard no more from the collection agency and do not know whether it has or has not collected any of the money due.

Something ought to be done to stop the collection agency racket that periodically sweeps thru the grain elevator field. What is our position in the case above mentioned? Can we force the agency to live up to the receipt of the agent? Or can we force the agency to give us an accounting and release the accounts?—H. Lew Mathre, Davis Junction, Ill.

**Ans.:** The Chicago Better Business Bureau, Inc., reports the following: "The Affiliated Underwriters Loan & Finance Co. was incorporated in Illinois on Feb. 13, 1934, and shares offices with the Birdsell Loan & Finance Co., Inc., at 1515 Sherman, Evanston, Ill. The incorporators are: A. E. Birdsell; his son, Harry A. Birdsell, and Marion Earl M. Straesser.

"The business and professional men complain that accounts are not purchased or financed; that the company immediately sends out collection letters as soon as the accounts are received; that there is no personal contact with debtors; that debtors are antagonized; that reports are not made of collections; that the company retains collections. When the client studies the 'purchase contract,' granting that he is able to obtain a copy of it, he learns that he has assigned his accounts to the company subject to its discretion in settlement, and hence subject to settlement of the entire obligation at only a fraction of the debt. In addition, the company's commission is 25% to 40% of the 'aggregate' amount of listed accounts. The company interprets this as meaning that the client is not entitled to a penny until the full commission has been secured by the company. The company insists that the client forward to it all money received from debtors, and refuses to make reports of collections unless this is done. Information received indicates that the company threatens to sue clients who fail to remit the full collections and, also in retaliation, states that it can settle accounts for small amounts.

"Supplement, Jan. 3, 1936: A contract, revised as to wording, but apparently to the same effect as the previous contract, has been used recently. Although not mentioning commission on the 'aggregate' amount of listed accounts, the contract provides that the company is to retain proceeds until it has received its full commission on the basis of 30% of the 'listed amount on accounts totaling less than \$1,000' or 25% of the 'listed amount on accounts totaling more than \$1,000.' . . . If interpreted as previously by the company, the company must receive its full commission of \$300 or \$250 before the client is entitled to a penny under the contract."

Other parts of the report deal with the history of A. E. Birdsell, who appears to have been associated with a number of questionable enterprises, and his business methods. "Solicitors for Birdsell," says the report, "carry a sales kit of letterheads purporting to be letters of endorsement, a few of which are genuine. One endorsement is from the A. M. A. Detective Bureau, supposed to be a creation of Birdsell's imagination.

"In June, 1934, a 'Better Business Bureau' was incorporated in South Dakota, two of the three incorporators being residents of Evanston, Ill., and employees of Birdsell. This South Dakota corporation has issued a favorable report on Affiliated Underwriters Loan & Finance Co., which salesmen have used in soliciting business. Birdsell's 'Better Business Bureau,' of course, has absolutely no connection with, and is totally unrecognized by any of the well known, public serving Better Business Bureaus throughout the country."

### Conference on Crop Planning

To formulate a program for administering the "Soil Conservation and Domestic Allotment Act" four regional conferences were called by Henry A. Wallace, sec'y of agriculture, the most important being the one held Mar. 5, 6 and 7 at the Stevens Hotel, Chicago.

As a guide the planners had read to them an address by Mr. Wallace.

The general conference broke up into seven sub-committees each with a share of the draft. Mr. Wallace flattered them with the statement that the committee's recommendations would be closely followed by Washington officials.

The committee on conditions of payment of benefits recommended that only two classifications be adopted; soil depleting and soil improving crops, the county acreage of such crops to be the base for calculating credits.

Increased feed prices have revived interest in molasses mixtures, molasses feed mixing machines, and forms of dry molasses which are conveniently mixed with feeds without the use of special equipment.

### Coming Conventions

Trade conventions are always worth while, as they afford live, progressive grain dealers a chance to meet other merchants from the same industry. You can not afford to pass up these opportunities to cultivate friendly relations and profit by the experience and study of others.

Apr. 22, 23. Western Grain & Feed Dealers Ass'n, Sioux City, Ia.

Apr. 23, 24, 25. California Hay, Grain & Feed Dealers Ass'n at the Biltmore Hotel, Los Angeles, Cal.

May 14, 15. Illinois Grain Dealers Ass'n, Hotel Jefferson, Peoria, Ill.

May 24. National Farmers Co-op. Elvtr. Assn', Hotel Fontenelle, Omaha, Neb.

May 26, 27. Kansas Grain Dealers Ass'n, Dodge City, Kan.

June 1, 2. Pacific States Seedsmen's Ass'n, Hotel Del Monte, Del Monte, Cal.

June 1, 5. American Ass'n of Cereal Chemists, Adolphus Hotel, Dallas, Tex.

June 8, 9. Central Retail Feed Ass'n, Schroeder Hotel, Milwaukee, Wis.

June 11, 12. American Feed Manufacturers Ass'n, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 16-17. Northwest Retail Feed Ass'n, West Hotel, Minneapolis.

June 22, 23. Ohio Grain, Mill & Feed Dealers Ass'n, Cedar Point, O.

June 25, 26, 27. Southern Seedsmen's Ass'n at Dallas, Tex.

June 29. Farm Seed Group of A. S. T. A. at Dallas, Tex.

June 29, 30 and July 1. American Seed Trade Ass'n at Dallas, Tex.

Oct. 12, 13. Grain and Feed Dealers National Ass'n at Hotel Schroeder, Milwaukee, Wis.

### Questionnaire on Grain Merchandising

The larger grain handling firms in the United States are the recipients of a questionnaire sent out by the Federal Trade Commission in compliance with Senate joint resolution No. 9 ordering an investigation into the sale, warehousing and processing of the principal farm products.

The questionnaire demands the most detailed information on purchases of grain and from whom bought.

Detailed data are required on sales of wheat to 12 of the leading specified milling companies.

As a result of the inquiry the Commission is expected by Congress to make recommendations for the improvement of the economic conditions of the farmers and probably pave the way for several more useless bureaus.

Only in a few sections of the country is the portable mill still a question of sufficient importance to cause complaint from elevators equipped with feed grinders. Most of the elevators that do a grinding business have expanded their own business and whipped portable mill competition by rounding out their service, supplying feed ingredients, building formulas, and mixing efficiently.

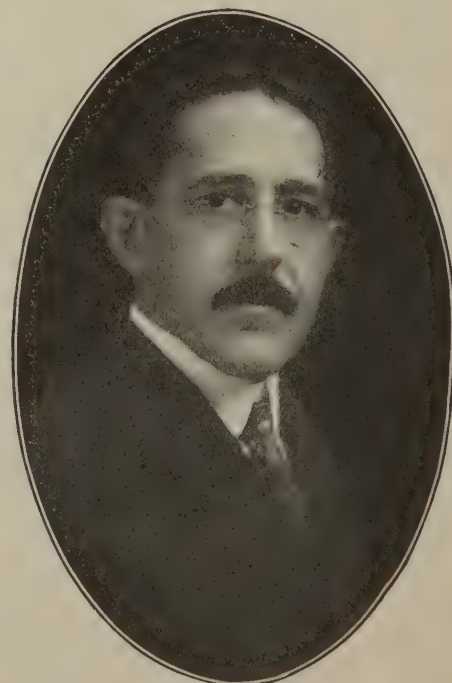
### Ferdinand Meyer Passes Away

Ferdinand A. Meyer, long engaged in the grain export trade at Baltimore, Md., died Feb. 27 of heart trouble after an illness of several weeks. He was 73 years old.

A native of Baltimore, he entered City College, became conversant with the German and French languages and began his business career with the old firm of Tate, Muller & Co. in 1882. Later he became vice pres. of their successor, the Louis Muller Co., handling their foreign business. He since purchased the business and changed the name to the present Baltimore Grain Co.

Mr. Meyer was a musical critic, and his authorship of a number of papers earned him a reputation as a litterateur. He became a recognized authority on European crops and European requirements, and was himself an expert judge of grain.

He had served on several of the active committees of the Chamber of Commerce and was its president in 1911 and 1912.



Ferdinand Meyer, Baltimore, Md., Deceased



# Crop Control Bill Approved By President

As approved by the President the new "Soil Conservation and Domestic Allotment Act" reads as follows, in part:

The bill amends sec. 7 of the soil erosion act by adding the following:

"Sec. 7. (a) It is hereby declared to be the policy of this Act also to secure, and the purposes of this Act shall also include, (1) preservation and improvement of soil fertility; (2) promotion of the economic use and conservation of land; (3) diminution of exploitation and wasteful and unscientific use of national soil resources; (4) the protection of rivers and harbors against the results of soil erosion in aid of maintaining the navigability of waters and water courses and in aid of flood control and (5) reestablishment, at as rapid a rate as the Sec'y of Agriculture determines to be practicable and in the general public interest, of the ratio between the purchasing power of the net income per person on farms and that of the income per person not on farms that prevailed during the five-year period August, 1909-July, 1914, inclusive, as determined from statistics available in the U. S. Dept. of Agriculture, and the maintenance of such ratio. The powers conferred under sections 7 to 14, inclusive, of this act shall be used to assist voluntary action calculated to effectuate the purposes specified in this section. Such powers shall not be used to discourage the production of supplies of foods and fibers sufficient to maintain normal domestic human consumption as determined by the sec'y from the records of domestic human consumption in the years 1920 to 1929 inclusive, taking into consideration increased population, quantities of any commodity that were forced into domestic consumption and exports of particular commodities, and the quantities of substitutes available for domestic consumption within any general class of food commodities. In carrying out the purposes of this section due regard shall be given to the maintenance of a continuous and stable supply of agricultural commodities adequate to meet consumer demand at prices fair to both producers and consumers.

"(b) The Secretary of Agriculture shall cooperate with States, in the execution of State plans to effectuate the purposes of this section, by making grants under this section to enable them to carry out such plans.

"(c) Any State which submits to the Secretary, prior to such time and in such manner and form as the Secretary prescribes, a State plan to effectuate the purposes of this section shall be entitled to payments, as provided in this section, for the year to which such plan is applicable, if such plan is approved by the Secretary as provided in this section.

"(d) No such plan shall be approved unless by its terms:

"(1) It provides that the agency to administer the plan shall be such state agency as may be designated by the Secretary if such agency is authorized by the State, or such other State agency as is authorized by the State and approved by the Secretary;

"(2) It provides for such methods of administration, and such participation in the administration of the plan by county and community committees or associations of agricultural producers organized for such purpose, as the Secretary finds necessary for the effective administration of the plan; and

"(3) It provides for the submission to the Secretary of such reports as he finds necessary to ascertain whether the plan is being carried out according to its terms, and for compliance with such requirements as the Secretary may prescribe to assure the correctness of and make possible the verification of such reports.

"(e) Such plan shall be approved if the Secretary finds that there is a reasonable prospect that—

"(1) Substantial accomplishment in effectuating the purposes of this section will be brought about through the operation of such plan and the plans submitted by other States, and

"(2) The operation of such plan will result in as substantial a furtherance of such accomplishment as may reasonably be achieved through the action of such State.

"(f) Upon approval of any State plan for any year the Secretary shall allocate to such State such sum (not in excess of the maximum amount fixed in pursuance of subsection (g) for such State for such year) as he finds necessary to carry out such plan for such year, and thereupon shall certify to the Secretary of the Treasury for payment to such agency of the State as the Secretary of Agriculture certifies is designated in the plan, and the Secretary of the Treasury shall pay to such agency, one-fourth of the amount so allocated. The remainder of the amount so allocated shall be

similarly certified and paid in such installments (payable prior to the end of the calendar year) as may be provided in the plan.

Sec. 8 limits the power of the Sec'y to carry out the control pending state action to the period prior to Jan. 1, 1938.

"(b) Subject to the limitations provided in subsection (a) of this section, the Secretary shall have power to carry out the purposes specified in clauses (1), (2), (3), and (4) of section 7 (a) by making payments or grants of other aid to agricultural producers, including tenants and share-croppers, in amounts, determined by the Secretary to be fair and reasonable in connection with the effectuation of such purposes during the year with respect to which such payments or grants are made, and measured by, (1) their treatment or use of their land, or a part thereof, for soil restoration, soil conservation, or the prevention of erosion, (2) changes in the use of their land, (3) a percentage of their normal production of any one or more agricultural commodities designated by the Secretary which equals that percentage of the normal national production of such commodity or commodities required for domestic consumption, or (4) any combination of the above. In determining the amount of any payment or grant measured by (1) or (2) the Sec'y shall take into consideration the productivity of the land affected by the farming practices adopted during the year with respect to which such payment is made. In carrying out the provisions of this section the Sec'y shall, as far as practicable, protect the interests of tenants and share-croppers. In carrying out the provisions of this section, the Sec'y is authorized to utilize county and community committees of agricultural producers and the agricultural extension service, or other approved agencies. In carrying out the provisions of this section, the Sec'y shall not have power to enter into any contract binding upon any producer or to acquire any land or any right or interest therein. In carrying out the provisions of this section, the Sec'y shall, in every practicable manner, protect the interests of small producers. The Sec'y in administering this section shall in every practical way encourage and provide for soil conserving and soil rebuilding practices rather than the growing of soil depleting commercial crops.

"(c) Any payment or grant of aid made under subsection (b) shall be conditioned upon the utilization of the land, with respect to which such payment is made, in conformity with farming practices which the Sec'y finds tend to effectuate the purposes specified in clause (1), (2), (3), or (4) of section 7 (a).

Sec. 11 of the Senate draft was eliminated, leaving the Sec'y without the power granted in that section to stabilize the markets and to advance money to grain corporations for that purpose. Evidently the legislators feared a repetition of the Federal Farm Board fiasco. Sec. 11 eliminated was published on page 130 of Feb. 26 number of the Journals.

"Sec. 15. To enable the Secretary of Agriculture to carry on the purposes of sections 7 and 8 there is hereby authorized to be appropriated for any fiscal year not exceeding \$500,000,000.

Grain elevators are eligible under the amended National Housing Act to borrow up to \$50,000 under the modernization credit plan, from approved private financial institutions, for the improvement and extension of property, and for the buying and installing of needed equipment and machinery.

Improved business among country elevators seems to be bringing back a degree of that old evil which mired so many during the depression—credit on sideline merchandise. The extension of credit can easily increase costs far above the margin available on the merchandise sold, thru the tying up of capital, and the accumulation of bad debts.

Chairman William P. Lauster of the legislative com'tee of the Pennsylvania Millers & Feed Dealers Ass'n, was successful last summer in winning passage of his portable mill licensing bill, which became an effective Pennsylvania law on Jan. 1. The law requires licensing of portable grinders in their respective counties, and payment of a licensing fee of \$25 for each portable grinding unit.

## Legislation at Washington

Planting tree shelter belts has been dropped, the item of \$1,000,000 for continuing this work having been eliminated from the agricultural appropriation bill.

The \$50,000,000 seed loan bill was vetoed by Pres. Roosevelt Feb. 26. Later he announced he would allocate not over \$30,000,000 for this purpose from relief funds. Since 1921 the government has lent \$288,000,000 for seed and feed, of which more than \$106,000,000 remains unpaid.

The appropriations bill for the interior department was passed by the Senate Mar. 2 with \$62,717,429 added for reclamation projects, making a total of \$143,938,757. Senator Vandenberg assailed the projects as inconsistent with the retirement of millions of acres of land at the expense of the public treasury.

An "unexpurgated" copy of the report of the Bureau of Agricultural Economics criticising the policy of scarcity was demanded Mar. 2 in a resolution unanimously adopted by the House. The report, before it was doctored by those higher up, gave facts to prove that cotton growers were worse off under the crop control than they would have been without it.

The Senate has voted to provide \$97,000,000 for the marketing of surplus cotton and other commodities held by the government valued at over \$300,000,000. This will be accomplished by the R. F. C. taking \$97,000,000 stock in the Commodity Credit Corporation. Senator Vandenberg objected that further holding of cotton, corn, tobacco and other commodities would "pyramid" the losses already sustained.

Harper Sibley, pres. of the Chamber of Commerce of the United States, told the Senate interstate commerce com'tee Mar. 3 that the Wheeler-Rayburn bill giving the Federal Trade Commission increased inquisitorial powers was of dubious constitutionality as contra to Supreme Court decisions holding the people to be exempt from unauthorized, arbitrary and unreasonable inquiries in respect to their personal and private affairs.

The National Live Stock Marketing Ass'n, by Chas. A. Ewing, pres., sent to Pres. Roosevelt the following telegram: "We understand it is proposed to tax all classes of live stock to finance the soil conservation and production regulation act, estimated to cost \$500,000,000 a year. No special benefits to live stock to be expected from this act. Not the legislation stockmen need or want. We want legislation opening outlets into foreign markets. This we believe can be given. We earnestly protest the levying of any tax on any class of live stock or its products for financing the crop regulation plan, believing it of no especial or permanent help to our industry."

PROMOTING sales of flour with cheap "silverware" supplied by a so-called Chicago "syndicate" has not proved satisfactory to buyers of certificates or "Silverware Coupons," which they place in each package of flour for free distribution to consumers. Millers seem to be easy prey for the slickers.

ALL OF THE STATE grain associations of the Mississippi Valley are making an earnest effort to obtain a record of all the swindling practices of traveling truckers who have been imposing upon buyers and sellers particularly of corn. Grain dealers who learn of any new short change or short weight racket of the truckers should make it known to the trade immediately.



## Letters from the Trade

[The grain dealers' forum for the discussion of grain trade problems, practices and needed reforms or improvements. When you have anything to say of interest to members of the grain trade, send it to the Journals for publication.]

### Banks Purposely Misrouting Drafts

*Grain & Feed Journals:* Some of the smaller banks to which millers' drafts are sent for collection seem to be playing hide and seek in making remittances. The following experience is a good illustration:

A Minneapolis mill shipped a car of flour to a customer at Podunk, Iowa and drew draft through the Podunk bank, requesting that remittance be made in Chicago exchange. The Podunk bank collected the item but remitted with a draft on Newton. This was deposited in Minneapolis, forwarded to the Federal Reserve Bank at Chicago for collection, and was sent out to Newton for remittance.

The Newton bank, instead of sending Chicago exchange, sent its draft on Des Moines, which means that at least one more round trip in the mills will have to be completed before the original item will be credited to the mill's account.

All of this has required several weeks with mill funds tied up for an unreasonable length of time. It is not any wonder that the mills are getting more and more out of patience with the methods which are followed by a good many collecting banks.—Millers' National Federation, Chicago, Ill.

### Erban Oats

The results of 26 successfully conducted tests of oats during the year show that the Erban variety produced an average yield of 46.8 bus.; O.A.C. No. 144, 45.7 bus.; Alaska (O.A.C. No. 157), 44.3 bus.; O.A.C. No. 72, 43.1 bus., and Laurel Hullless, 31.1 bus. of grain per acre.

The Erban, which was included in the co-operative tests for the first time in 1935, is a new variety originated at the Ontario Agricultural College by crossing the Banner and Early Ripe varieties. This variety at the Ontario Agricultural College in the average of the last five years has outyielded the Banner variety by more than ten bushels of grain per acre. In the average of the same period it ripened 4 days earlier than the Banner, had 27.2% of Hull, compared with the Banner 29.2%, 8% rust injury, compared with the Banner 13%, and no loose smut damage, compared with the Banner 3%.

The O.A.C. No. 144 matures about 2 days later than the Banner, has longer, but not quite so strong straw as this variety. The O.A.C. No. 144 has shown an almost total immunity to injury from loose smut, and gives its best results on soils which are not too fertile.

The Alaska variety was introduced into Ontario by the Ontario Agricultural College in 1900. The plant breeding division of the Field Husbandry Department produced a plant-selected strain of this variety which is known as Alaska (O.A.C. No. 157), and which, in the experiments at the College and in the co-operative tests over Ontario, has consistently given better yields per acre than the original Alaska variety. The Alaska (O.A.C. No. 157) is a white-grained oat which is very thin in the hull.

The O.A.C. No. 72 variety, which matures at the same time as the Banner, has about the same straw strength, is next to the Banner, the most widely grown oat in Ontario.

The Laurel Hullless variety was included in the co-operative tests for the first time this year. This variety, in the average of the last five years' tests at the College, has

outyielded the Liberty Hullless by about three bushels of grain per acre. Hullless oats are increasing in importance in Ontario and are especially liked by farmers for feeding to young, growing stock.

### Acidity as an Index to Corn Quality

Acidity in corn, which this year has gained such wide recognition as an index to the keeping quality of the grain and the value of drying when the moisture content is excessive, is part and parcel of the heating process. Increases in acid denote deterioration. Importers and exporters of corn (more familiarly known as "maize" in foreign grain circles) attach a good deal of importance to the acid content of the grain when it is sent on long ocean voyages. This has a bearing on the position of lading in a ship's hold.

An English text book describes bright, dry, sound corn as having good color, a wholesome smell and an acidity (see page 458, Dec. 11, Grain & Feed Journals, for description of acidity test) ranging from below 20 degrees down to as low as 12. The acidity rises as the corn ages, but in sound, sweet-smelling grain the acidity stays below 25.

Acidity increases in high moisture corn following harvest. An increase to 22 makes the grain incipiently unsound, tho it may appear dry and sweet, and such grain is apt to heat if subjected to conditions favorable to heating.

A slightly sour smell in corn that appears bright, dry, and of good color, is associated with a rise in the acidity to 26 or 27, and a distinctly sour smell follows a rise in the acidity to around 30. At this stage damage from heating has already started. Color and brightness is affected. As the heating and sourness progresses the kernels become dull and gradually turn to a dark brown. They may become covered with a light, powdery dust that can be rubbed off between the thumb and forefinger. When the acidity reaches 35 the grain begins to smell foul.

Corn arriving at the terminals carrying heavy moisture, but still having acidity below 22, may be dried and safely stored under normal storage conditions. Dryness, however, has no effect on the acidity, and dried corn with more than 22 degrees of acidity holds within itself every possibility for starting to heat when subjected to suitable heat or moisture. While corn with acidity as high as 26 degrees may be stored, it must be carefully watched.

Acidity tests on corn in store is an index to the condition of the bin contents and shows what corn to move first. Heating of grain does not occur except in the presence of air from which the chemical process can take oxygen for the formation of carbon dioxide. If grain were stored in an air tight container the amount and degree of heating and mold would be confined to the negligible amount made possible thru the volume of air present in the container at the time of sealing.

It naturally follows that heating in stored grain occurs at a point subject to excessive heat, or at the surface of the bin, or close enough to the surface so that sufficient air circulates to supply oxygen for oxidation. Where heating may start in a bin will depend to a major extent on whether the bin is tight or porous, and at what points heat and moisture become available.

Normally it would be safe to assume that a sample of corn taken from the surface of a bin

would show the highest acidity of the contents of the bin, and from the acidity test the quality and safety of the grain in store could readily be deduced.

### Liability Clause in Right of Way Lease

A lumber mill having a side track lease burned in 1914 and the court held that the liability clause in the lease made the industry liable for all damages even to the property of third parties when the fire spread to a distance.

This decision upholding the liability clause as to the property of third persons so greatly increased the possible risk that the insurance companies refused insurance to concerns having such side track leases.

The industries thereupon through the National Industrial Traffic League filed a complaint with the Interstate Commerce Commission asking for a limitation of industry liability; but before action by the Commission Mr. Markham of the Illinois Central took up the matter with the League, and two committees of the carriers and shippers agreed upon a new clause relieving the industry of liability for damage to third parties, and this clause is now in use by all railroad companies.

The Interstate Commerce Commission on Mar. 15, 1921, dismissed the complaint on the ground the Commission had no jurisdiction, the lease not being a matter of transportation.

Leases of right of way for the erection and operation of grain elevators, warehouses or other buildings are not covered by the foregoing uniform clause. As to buildings on the right of way each railroad writes its own limitation of liability for loss by fire.

Some of the railroad companies have clauses in their right of way leases throwing all liability for loss by fire upon the lessee, even when the property of third persons beyond the premises is damaged.

Some of the grain carrying railroads have incorporated in their right of way leases the same protection to the industry that is provided in the uniform side track lease.

This clause in the right of way lease of a leading Western road reads as follows:

Third. It is understood and agreed that the movement of railroad locomotives involves some risk of fire and the lessee assumes all responsibility for and agrees to release and indemnify the lessor from and against loss or damage to property of the lessee or to property upon the lessee's premises, regardless of lessor's negligence, arising from fire caused by locomotives operated by lessor, except to the property of the lessor and to rolling stock belonging to the lessor or to others, and to shipments in the course of transportation.

The lessee also agrees to indemnify and hold harmless the lessor against loss, damage or injury from any act or omission of the lessee, its employees or agents, to the person or property of the parties hereto and their employees or agents and to the person or property of any other person, firm or corporation, while on or about the premises covered by this lease; and if any claim or liability other than from fire shall arise from the joint or concurring negligence of both parties hereto it shall be borne by them equally.

The foregoing clause protects the operator of an elevator on the right of way from being required to settle damage suits brought by third persons against the railroad company, when the person or property of the third person was not upon the elevator premises.

A railroad company leasing part of its right of way to an industry does not do so in its capacity of common carrier; but as an ordinary landlord, who is in position to refuse a lease unless the lessee will agree to any provision however unreasonable. All risks incident to the operation of the railroad are properly those of the railroad company, and it is unfair to shift any of this liability to a lessee having no control over the operation of the cars or engines. When renewing a lease or negotiating for a site shippers should insist upon clauses similar to the foregoing, which must be fair to the railroad company, since the leading western grain carrying line has seen fit to incorporate it in all its grain elevator leases.



## Driveway Observations

By TRAVELER

COUNTRY ELEVATOR operators thruout the middle west persistently express fear of a shortage of suitable seed corn. Last year's crop failed to dry properly. Its acidity runs high, its germination is undependable, in the vast majority of cases. Those who have sound, dry corn from the 1934 and 1933 crops that shows good germination, will find a ready market among the seed buyers. Offerings of suitable seed corn thru the columns of this Journal will quickly find buyers in grain elevator and seed circles.

\* \* \* \* \*

"Farmers in this locality raise wheat principally for feed," explained Alex Murray, of Ebersole & Murray, at Albany, Mo. "Not enough corn is produced to meet feeding requirements, and wheat matures much earlier than corn. It can be used when corn supplies are exhausted in the summer. Then, too, there has been no incentive to exchange wheat for corn on the comparable price basis existing for the last several years. A satisfactory differential does not exist at the present time. Of course, the cost of wheat as a feed will be run up by the 10c per bu. cracking or grinding charge, but it is still the cheaper feed."

\* \* \* \* \*

"SEC'Y WALLACE, with his benefit payments to grain and cotton farmers, and tariff policies that allow imports of Mexican and South African corn and Argentine oats, is like the kind of a father who gives his own kid a dime to go to the picture show, then hires a neighbor's son to mow the lawn in order to divide the labor," remarks Uncle Bill Brown, an Illinois grain dealer. "I been figuring some on mixing up with this barge line business if the railroads don't bring down their rates. Only a fellow can't tell if it would pay out on account of not knowing what the government is going to do next."

\* \* \* \* \*

P. F. BROWN, agent for Davis Bros. & Potter, at Sulphur Springs, Ia., credits a photograph and story of moving an elevator in the Dakotas, appearing in GRAIN & FEED JOURNALS, with his idea for making use of his company's extra unused elevator at Sulphur Springs as a storage unit.

The unused east elevator of the company stood across the road from the active west elevator. On Mr. Brown's suggestion a concrete foundation for the inactive elevator was poured adjacent to the west elevator. Then the inactive elevator was jacked up, put on rollers, and moved to the new location. Its ancient machinery was removed, the bottoms of the bins over its work floor were knocked out to include the work floor as part of a large center bin, a catwalk and spout were built across from the leg head of the active elevator, spouting from the

bin bottoms was led to a screw conveyor so they could be emptied into the boot of the active elevator, and the formerly inactive elevator was successfully converted into a well-built 7-bin annex that added 20,000 bus. of low-cost storage space to the active elevator, giving it a total of 45,000 bus. capacity

\* \* \* \* \*

"FERTILIZER last season," says Dorman Harris, of the grain and feed department of the New Ross (Ind.) Grain & Lumber Co., which is managed by W. Whitecotton, "helped our farmers to corn that grew better and matured earlier than those who did not use fertilizer. Farmers in this community who used fertilizer on their corn land last year, when the frosts came their corn was sufficiently matured to escape damage, and before the frosts their corn showed from one to two feet greater growth than the average.

"The disposition of the farmers always to look for seed that grows the biggest ears of corn frequently works to their disadvantage. Last fall those big ears failed to mature, and all thru the fall and winter they have retained high moisture."

## To Subsidize Flour Exports

The Sec'y of Agriculture recently made the following announcement:

Pursuant to the authority vested in me by clause (1) of Sec. 32 of Public No. 320, 74th Congress, approved Aug. 24, 1935, and in conformity with the desire of Congress to encourage the exportation of agricultural commodities and products thereof, announcement is hereby made that, subject to the approval of the secretary of agriculture or his duly authorized agent, there will be paid to any exporter of flour made from wheat grown in the states of Washington, Oregon and Idaho an indemnity for losses incurred in connection with the exportation of such flour to the Philippine Islands during the period commencing Jan. 1, 1936, and ending June 30, 1936. Payments will be made subject to the following conditions:

(1) The rate of indemnity to be paid on any sale in the export trade will be that announced by the agent of the secretary of agriculture as in effect on the day and at the time at which any such sale shall be made.

(2) Indemnity payments will not be made upon total exports in excess of 333,300 bbls. (196 lbs.) of wheat flour.

Declaration of Sale and Application for Flour Export Indemnity Payment should be filed with Mr. William Clohessy, Portland, Ore., duly authorized agent of the secretary of agriculture.

The program is intended to reduce a regional surplus of wheat in the Pacific Northwest and to maintain the normal market for United States flour in the Philippines. This market has been threatened during the last two years as a result of United States wheat prices being higher than those in other countries competing for the Philippine trade.

The plan is to be financed from funds made available from customs receipts under authority of Sec. 32 of the legislation known as Public No. 320, 74th Congress, approved Aug. 24, 1935.

## Rapid Testing of Flaxseed

Collaborating with the linseed oil companies' laboratories, the Grain Division of the Bureau of Agricultural Economics, after experimenting for a year, has perfected a test determining the oil content of flaxseed in 20 minutes instead of 16 to 24 hours.

The new method is refractometric as developed by Coleman and Fellows.

A refractometric procedure has also been developed for the rapid determination of the iodine number of the oil in flaxseed. Iodine number is an approximate measure of the drying property of the oil. When both oil content and iodine number are to be determined refractometrically, the iodine number determination involves no additional labor, since the data necessary for its determination are obtained in the determination of the oil content.

A description of these methods for the rapid determination of oil content and iodine number in flaxseed was presented by the Grain Division at the annual meeting of the Flax Institute of the United States, held in Minneapolis on Jan. 23 and 24, 1936, with the recommendation that the methods be adopted for the commercial inspection of flaxseed in the event that a public oil-testing service should be established. A resolution was passed at this meeting requesting the Sec'y of Agriculture to provide for the continuation of this research in order to develop additional useful information on flaxseed testing subjects.

## The Increasing Demand for Fast Handling Elevators

Do you remember 'way back when harvest brot a flock of horsedrawn wagons loaded with grain to country elevators? The average load was small, but the work of weighing, calculating its value and elevating the grain to the right bin took just as much time and labor as is required of the operator of a fast handling modern elevator to receive and put in storage a large truck load of today.

The 20-ton scale with the fast handling dump and 3500-bu. leg handles the largest truck load as expeditiously as the old time equipment handled the wagon load and with no more effort on the part of the elevator operator. The efficient modern elevator receives and ships a large volume of grain so readily a long string of loaded trucks as is shown in the illustration herewith bears no discouraging factor to the operator.

The crop conditions prevailing throughout the grain surplus states are so encouraging country grain buyers are most optimistic over the large business in prospect. The small stocks of grain in all storage centers are being reduced rapidly so by the time 1936 crops start to market the many empty bins will welcome each train load with open arms.

The country grain merchant with modern fast handling facilities has another advantage that is often overlooked. Even though an army of trucks helps him to close a perfect day with every bin full, he can load the grain into waiting box cars before daybreak and get the grain onto the market before any material change in the price and before another string of loaded trucks stands at his driveway.

The grain buyer who fails to provide modern facilities for handling the harvest rush of grain must expect to be grievously depressed by the diversion of many loads of grain to up-to-date rapid handling houses where farmers can unload without waiting. The time to provide modern facilities for cleaning and improving as well as rapid handling is before the crop starts to market.

Raising turkeys is a sideline of the Banks elevator and feed mill at Kirkland, Ill.



A Long Line of Trucks with Heavy Loads of Wheat Waiting to Unload at Copeland, Kan.  
[See outside front cover.]



## Crop Reports

Reports on the acreage, condition and yield of grain and field seeds, as well as on the movement to country markets, are always welcome.

Farley, N. M., Mar. 2.—We are expecting a bumper crop here this year.—Ward Bean & Elvtr. Co., by Grace Ward.

Knox, N. D., Feb. 29.—Have plenty of snow and prospects for a crop are good.—Oscar Palm, mgr. Powers Elvtr. Co.'s elevator.

Rockport, Ind.—Much growing wheat was covered recently by the backwaters from the Ohio River flood, but it is not believed the crop has been seriously damaged.—W.B.C.

Mt. Vernon, Ind.—Considerable acreage of growing wheat in the Wabash River bottoms was inundated during the week ending Mar. 7, with flood stages reached at Mt. Carmel, Ill., and Vincennes, Ind.—W.B.C.

Farley, N. M., Mar. 1.—Wheat conditions are fair. Have sufficient moisture for planting of row crops, but need top moisture to start grass. Plenty of feed and field seeds here—sudan, millet and cane.—M. J. Davenport & Co.

Menno, S. D., Mar. 7.—Frost is going out fast and snow is mostly gone. Look for wheat seeding to start here in a week now. Ground is in fine shape. Lots of moisture to start crops, and fields are drying up fast now.—Menno Milling & Grain Co.

Duluth, Minn.—Laboratory tests of malting barley grown in sections of northern Minnesota yielded surprising results. Samples tested 100% germination, whereas, most samples range from 89 to 96%. Duluth brewers are negotiating for barley raised on farms in this section.—F.G.C.

Chicago, Ill., Mar. 7.—The condition of winter wheat on Mar. 1 is rated at 70.2% of normal, which compares with 71.4 on Mar. 1 last year

and an average of 77.6 for the past nine years on Mar. 1. We interpret present conditions as suggesting a crop of about 500 million bus.—Nat C. Murray, statistician Clement, Curtis & Co.

Hawarden, Ia., Feb. 27.—Seed corn is scarce this spring and takes much hand sorting to get a high germination test. Roads are blocked with snow again after yesterday's bad storm. With plenty of moisture in sight for next spring's crops farmers are buying grass seed early this year, we have enjoyed a wonderfully good demand.—Northwest Iowa Seed Co.

Evansville, Ind.—Winter kill and Hessian fly have cut wheat production from 15 to 20% in Vanderburgh, Posey, Gibson, Warrick, Knox, Sullivan and Daviess counties, Cliff Skiver, Purdue extension wheat specialist, has estimated. The anticipated reduction in yield will offset the increased acreage considerably, and with a normal season bushel production should be near that of average.—W.B.C.

Decatur, Ill., Mar. 7.—Winter wheat is beginning to green up—some damage in low spots where the thickest ice formed—otherwise conditions are favorable. This is the season when real damage could be done if the temperature dropped sharply. Very little activity in beans. In the northern and western parts of the state quite a large percentage of beans still in the fields. With seed corn scarce and prices high, an increased acreage of soy beans might result.—Baldwin Elvtr. Co.

Winchester, Ind., Feb. 28.—Most important thing to report from this section is the fact that apparently there was no extensive damage to our winter wheat from the continued cold spell. In low places that were covered with ice, the wheat was killed; however, this is usually true every year. Flood waters along large streams will cause some damage, but this won't be extensive. Corn coming in from cribs is just about as wet as it was last November. Tests today run as high as 25%. We are fearful a few warm days will cause a tremendous loss in crib corn.—Goodrich Bros. Co., C. C. Barnes, sec'y.

Kansas City, Kan., Mar. 2.—The dust storms of the last few weeks, while not as severe as

those of last year, have already done considerable damage and some western Kansas wheat has already been lost. Little winter killing caused by subzero weather is apparent. The western third of the state is undoubtedly in better shape than during the past three years on Mar. 1. In that section 75% of the wheat is still alive and 50% of the planted acreage is in fair to good shape. In the central third of the state the crop seems to be about normal for this time of the year, with fields greening up. With sufficient moisture we could raise a normal crop in the eastern two-thirds of the state and at least a half crop west of the 100th meridian.—T. B. Armstrong, chief grain inspector for Kansas.

## Grading of New Corn

The Grain Division of the Bureau of Agricultural Economics reports that from Feb. 1 to 15 the corn received at representative markets was graded 1 per cent No. 2, 3 per cent No. 3, 20 per cent No. 4, 61 per cent No. 5, and 15 per cent sample. These percentages are about the same as the grading from Dec. 1 to Feb. 15.

The Illinois State Grain Inspection Department reports the grading of corn at Chicago from Feb. 15 to Feb. 29 as follows: No. 2, 3 cars; No. 3, 9 cars; No. 4, 316 cars; No. 5, 1010 cars, and sample, 100 cars.

The Chicago receipts during the week Mar. 2 to 7 were graded as follows: 2 cars, No. 2; 20 cars, No. 3; 165 cars, No. 4; 660 cars, No. 5, and 68 cars sample.

In most instances the factor lowering the grade was excessive moisture.

A total of 749,352 animals were delivered by 136,250 trucks to the Fort Worth stockyards alone, in 1935, and truck movement of livestock to other Texas markets increased tremendously, says the annual report of the Texas Livestock Sanitary Commission. The report stated that truck operation had increased livestock thievery, and made systematic tick and scab eradication work impossible.

## United States Grain Crops for 50 Years

Estimates of the U. S. Department of Agriculture of wheat, corn, oats, rye and barley crops of the United States from 1886 to 1935, in bushels, are as follows:

	Winter	Wheat Spring	All	Corn, All	Oats	Rye	Barley
1886...			513,540,000	1,782,767,000	682,312,000	23,854,000	73,503,000
1887...			490,761,000	1,604,549,000	696,175,000	22,548,000	72,395,000
1888...			423,867,000	2,250,632,000	773,139,000	28,417,000	75,980,000
1889...			504,370,000	2,294,289,000	831,047,000	29,524,000	80,790,000
1890...			449,042,000	1,650,446,000	609,122,000	26,378,000	69,880,000
1891...			677,543,000	2,335,804,000	836,789,000	29,541,000	94,160,000
1892...			611,854,000	1,897,412,000	721,824,000	28,718,000	95,170,000
1893...			505,795,000	1,900,401,000	707,129,000	26,700,000	87,109,000
1894...			541,873,000	1,615,016,000	750,009,000	26,758,000	74,211,000
1895...			542,119,000	2,534,762,000	924,858,000	29,636,000	104,475,000
1896...			522,963,000	2,671,048,000	774,929,000	31,858,000	97,479,000
1897...			606,202,000	2,287,628,000	829,525,000	31,137,000	102,575,000
1898...			768,148,000	2,351,323,000	842,205,000	29,062,000	98,174,000
1899...			655,143,000	2,645,796,000	937,173,000	26,001,000	118,161,000
1900...			599,315,000	2,661,978,000	945,483,000	27,413,000	96,588,000
1901...			762,546,000	1,715,752,000	799,812,000	30,773,000	123,800,000
1902...			686,959,000	2,773,954,000	1,076,899,000	33,877,000	146,207,000
1903...			663,115,000	2,515,093,000	885,469,000	28,932,000	149,335,000
1904...			555,571,000	2,686,624,000	1,011,556,000	28,461,000	166,103,000
1905...			706,026,000	2,954,148,000	1,104,395,000	31,173,000	171,639,000
1906...			740,509,000	3,032,910,000	1,022,715,000	29,609,000	179,148,000
1907...			628,764,000	2,613,797,000	801,144,000	28,247,000	150,584,000
1908...			642,818,000	2,566,742,000	829,308,000	28,650,000	170,780,000
1909...	417,796,000	266,131,000	683,927,000	2,611,157,000	1,013,909,000	30,083,000	173,069,000
1910...	429,875,000	195,601,000	625,476,000	2,852,794,000	1,106,162,000	29,098,000	142,419,000
1911...	428,740,000	189,426,000	618,166,000	2,474,635,000	885,527,000	31,398,000	145,074,000
1912...	402,703,000	327,308,000	730,011,000	2,947,842,000	1,353,273,000	37,911,000	196,927,000
1913...	501,239,000	249,862,000	751,101,000	2,272,540,000	1,039,131,000	40,390,000	158,820,000
1914...	670,945,000	226,542,000	897,487,000	2,523,750,000	1,066,328,000	42,120,000	177,712,000
1915...	640,565,000	368,072,000	1,008,637,000	2,829,044,000	1,435,270,000	46,751,000	206,976,000
1916...	456,118,000	178,454,000	634,572,000	2,425,206,000	1,138,969,000	43,089,000	159,157,000
1917...	389,956,000	229,834,000	619,790,000	2,908,242,000	1,442,519,000	60,321,000	182,209,000
1918...	556,506,000	347,624,000	904,130,000	2,441,249,000	1,428,611,000	83,421,000	225,067,000
1919...	748,460,000	203,637,000	952,097,000	2,678,541,000	1,106,603,000	78,659,000	131,086,000
1920...	613,227,000	230,050,000	843,277,000	3,070,604,000	1,444,291,000	61,915,000	171,042,000
1921...	602,793,000	216,171,000	818,964,000	2,928,442,000	1,045,270,000	61,023,000	132,702,000
1922...	571,459,000	275,190,000	846,649,000	2,707,306,000	1,147,905,000	100,986,000	152,908,000
1923...	585,299,000	204,183,000	789,482,000	2,875,292,000	1,227,184,000	55,961,000	158,994,000
1924...	571,558,000	268,533,000	840,091,000	2,298,071,000	1,424,422,000	59,076,000	167,314,000
1925...	401,116,000	268,026,000	669,142,000	2,853,083,000	1,410,336,000	42,779,000	192,779,000
1926...	631,950,000	201,594,000	833,544,000	2,574,511,000	1,141,941,000	35,361,000	164,467,000
1927...	547,666,000	327,067,000	874,733,000	2,677,671,000	1,093,097,000	52,111,000	240,057,000
1928...	577,417,000	335,544,000	912,961,000	2,714,535,000	1,318,977,000	38,591,000	229,625,000
1929...	586,055,000	236,125,000	822,180,000	2,535,546,000	1,118,414,000	35,482,000	280,242,000
1930...	631,205,000	258,497,000	889,702,000	2,065,273,000	1,277,379,000	46,275,000	303,752,000
1931...	817,962,000	114,259,000	932,221,000	2,588,509,000	1,126,913,000	32,290,000	198,543,000
1932...	478,291,000	267,497,000	745,788,000	2,906,873,000	1,246,548,000	40,639,000	302,042,000
1933...	350,792,000	178,183,000	528,975,000	2,351,658,000	731,500,000	21,150,000	155,825,000
1934...	405,552,000	19,377,000	424,929,000	1,377,126,000	525,889,000	16,045,000	118,348,000
1935 <sup>1</sup> ...	433,447,000	169,752,000	603,199,000	2,202,852,000	1,195,435,000	57,936,000	292,249,000

<sup>1</sup>Not estimated separately for winter and spring from 1886 to 1908.

<sup>2</sup>Preliminary.

## Corn Movement in February

Receipts and shipments of corn at the various markets during February, compared with February, 1935, in bushels, were:

	Receipts 1936	Receipts 1935	Shipments 1936	Shipments 1935
Baltimore	56,880	93,414	.....	.....
Boston	.....	505,329	.....	.....
Chicago	4,130,000	925,000	1,430,000	1,824,000
Duluth	837	.....	8,399	42,078
Ft. William	.....	.....	.....	1,071
Ft. Worth	135,500	205,500	60,000	153,000
Hutchinson	4,500	1,500	.....	.....
Indianapolis	2,152,000	1,063,000	1,488,000	769,500
Kan. City	898,500	1,522,500	738,000	2,164,500
Milwaukee	482,050	296,050	85,800	157,300
Minneapolis	400,280	98,450	291,620	493,580
New Orleans	4,500	198,280	20,778	85,830
Omaha	673,400	289,800	1,308,282	957,929
Peoria	1,481,900	1,080,350	603,400	494,400
Philadelphia	155,470	64,968	.....	.....
Portland	.....	.....	.....	.....
(Ore.)	63,023	99,075	29,286	26,697
St. Joseph	433,500	163,500	243,000	619,500
Seattle	4,500	.....	.....	.....
Superior	3,015	1,493	1,178	36,571
Toledo	326,250	65,000	215,965	13,910
Wichita	13,000	9,100	20,800	.....

## Rye Movement in February

Receipts and shipments of rye at the various markets during February, compared with February, 1935, in bushels, were:

	Receipts 1936	Receipts 1935	Shipments 1936	Shipments 1935
Baltimore	162,567	548,952	.....	.....
Boston	.....	1,000	.....	.....
Chicago	117,000	1,000	541,000	700,000
Duluth	235,584	.....	.....	56,272
Ft. William	15,679	14,075	.....	.....
Indianapolis	115,500	30,000	82,500	72,000
Kan. City	.....	6,000	8,000	4,500
Milwaukee	36,790	1,415	17,570	2,510
Minneapolis	394,230	59,820	400,890	125,840
Omaha	19,600	1,400	12,650	.....
Peoria	188,400	213,000	4,800	56,200
Philadelphia	19,560	271,272	.....	.....
Portland	.....	4,475	.....	3,044
St. Joseph	.....	.....	1,500	.....
Seattle	3,000	1,500	.....	.....
Superior	187,574	84,716	.....	61,142
Toledo	6,000	1,200	1,000	2,680



# Grain Movement

Reports on the movement of grain from farm to country elevator and movement from interior points are always welcome.

Holcomb, Ill., Mar. 6.—Farmers are still holding a good deal of corn which may be expected to move when the roads and weather and market are suitable.—Robert P. Sheaff.

Malta, Ill., Mar. 7.—A large volume of corn remains on the farms to be sold. The long cold spell and snow made earlier shelling impossible for the majority of farmers. Corn still carries heavy moisture.—Geo. F. Ollmann.

Chicago, Ill., Mar. 6.—Reports indicate that the stocks of grain on U. S. farms Mar. 1 were: Corn, 880,000,000 bu., wheat 125,000,000 bu.; oats 520,000,000 bu.—H. C. Donovan, statistician, Thomson & McKinnon.

Chicago, Ill., Mar. 7.—Farm stocks of corn Mar. 1 are estimated at 929,646,000 bu., against 539,973,000 and 1,018,800,000 one year and two years ago. Farm stocks of wheat were 117,865,000 bu. Mar. 1, against 106,944,000 a year ago.—Nat C. Murray, statistician Clement, Curtis & Co.

Winchester, Ind., Feb. 28.—No oats moving. Farmers are becoming very anxious about seed oats. Last year we shipped in beautiful Michigan oats. Took quite a loss on them, as the farmers decided to sow their own oats and as

a result most of them had no crop at all.—Goodrich Bros. Co., C. C. Barnes, sec'y.

Duluth, Minn.—Imports of Canadian wheat by rail is going on at a moderate scale. So far the movement has been largely of the durum type, but sales of spring wheat have been reported made recently for movement to Minneapolis mills. Weakness in Winnipeg market and strength in Minneapolis cash premiums made it possible to work business.—F.G.C.

Kansas City, Mo., Mar. 5.—Contract stocks decreased only 100,000 bu. in February, compared with 1,722,000 reduction in January and a shrinkage of 2,392,000 a year ago. Stocks of all grades decreased 1,753,000 bu., compared with 2,936,000 reduction in February, 1935. Total stocks of all grades of wheat in "regular" elevators in this city on Feb. 29 were 9,268,066 bu., compared with 14,468,326 bu. on Feb. 28, 1935.

Decatur, Ill., Mar. 7.—The country has been selling a fair amount of corn; however, with prices now generally below producers' ideas, offerings are likely to dry up, especially the better quality corn that will keep. The movement of corn by truck in central Illinois is again under way in volume. A few more oats being loaded out of country elevators, most of which are poor quality. Fair demand this week from the South for good oats suitable for seed but they are scarce.—Baldwin Elvtr. Co.

Duluth, Minn.—Receipts of grain here for the first two months of the year were smaller, compared with a year ago, namely 1,142,000 bu. and 1,604,000. Shipments on the other hand aggregated 700,000 bu. more than in the same period last year, 2,221,436, and 1,520,000. Stocks of 17,646,000 bu. were held here at the close of February, against 12,865,000 the same time in 1935. Vesselsmen do not look for the usual spring rush which provides cargoes for scores of ves-

sels, because of the listless demand, and see no important out movement in the immediate opening this season.—F.G.C.

Ottawa, Ont., Mar. 6.—Canadian wheat visible supply was reported as 222,857,829 bus. for the week ending Feb. 28, compared with the revised figure of 228,305,032 bus. for the previous week and 240,802,269 bus. for the week ending Mar. 1, 1935. Wheat marketings in the Prairie Provinces for the week ending Feb. 21, amounted to 351,643 bus., the previous week 335,264 bus. were marketed. During the corresponding week a year ago, the receipts were 2,584,429 bus. During the week ending Feb. 28, 1936, the overseas export clearances of wheat amounted to 4,701,765 bus., while imports into the United States for consumption and milling in bond were 588,000 bus. The total is 5,289,765 bus., as compared with 4,764,675 bus. for the previous week.—R. H. Coats, Dominion statistician.

Dust house waste at most elevators can be usefully converted into profit thru feeding channels. Wise feeders buy this waste regularly.

## Barley Movement in February

Receipts and shipments of barley at the various markets during February, compared with February, 1935, in bushels, were:

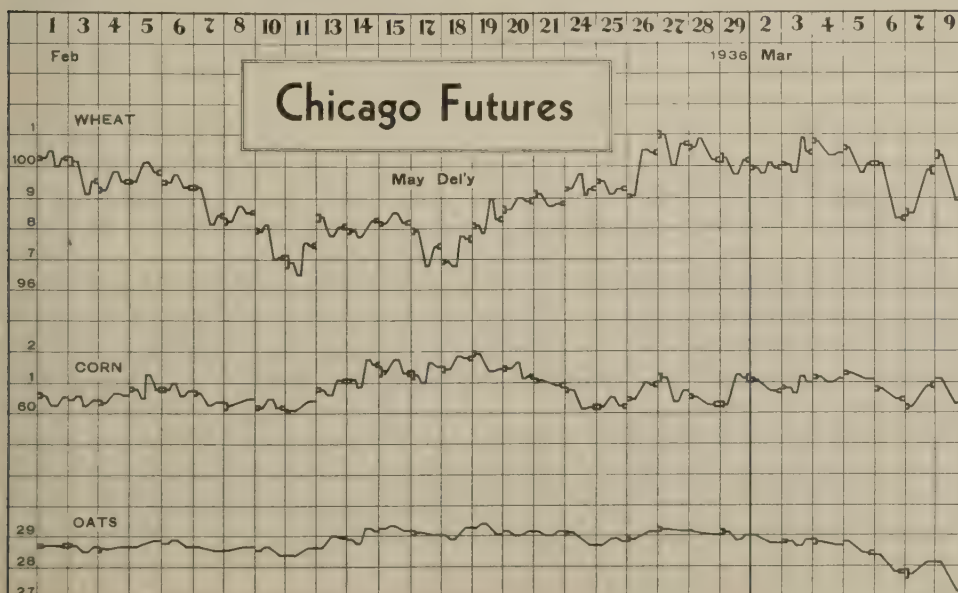
	Receipts		Shipments	
	1936	1935	1936	1935
Baltimore	9,404	.....	.....	.....
Chicago	834,000	528,000	487,000	135,000
Duluth	249,068	24,894	122,126	301,311
Ft. William	38,034	118,439	43,835	3,394
Ft. Worth	2,800	2,800	.....	.....
Indianapolis	1,500	.....	.....	3,000
Kansas City	43,200	4,800	16,000	.....
Milwaukee	1,233,240	743,040	470,675	219,575
Minneapolis	1,444,330	642,840	2,005,400	1,161,560
Omaha	54,400	1,600	168,258	183
Peoria	211,400	166,600	93,800	72,800
Philadelphia	3,423	13,331	.....	.....
Portland	22,266	12,511	13,545	5,775
St. Joseph	8,750	.....	24,500	10,500
Seattle	15,400	1,400	.....	.....
Superior	154,902	21	39,149	103,695
Toledo	4,800	3,600	.....	20,925
Wichita	.....	1,300	.....	.....

## Daily Closing Prices

The daily closing prices for wheat, corn, oats, rye and barley for May delivery at the following markets for the past two weeks have been as follows:

	Option		Feb. 26		Feb. 27		Feb. 28		Mar. 1		Mar. 2		Mar. 3		Mar. 4		Mar. 5		Mar. 6		Mar. 7		Mar. 8		Mar. 9		Mar. 10	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
Chicago	107	88 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	99 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2
Winnipeg	102 1/2	82 1/2	85 1/2	85 1/2	84 1/2	84 1/2	83 1/2	83 1/2	83 1/2	83 1/2	83 1/2	83 1/2	83 1/2	83 1/2	83 1/2	83 1/2	83 1/2	83 1/2	83 1/2	83 1/2	83 1/2	83 1/2	83 1/2	83 1/2	83 1/2	83 1/2	83 1/2	83 1/2
Liverpool*	96 1/2	80 1/2	91 1/2	91 1/2	90	90	89 1/2	89 1/2	90 1/2	90 1/2	90 1/2	90 1/2	90 1/2	90 1/2	90 1/2	90 1/2	90 1/2	90 1/2	90 1/2	90 1/2	90 1/2	90 1/2	90 1/2	90 1/2	90 1/2	90 1/2	90 1/2	90 1/2
Kansas City	108 1/2	88 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2	98 1/2
Minneapolis	125 1/2	99 1/2	109 1/2	109 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2	108 1/2
Duluth, durum	105 1/2	88 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2	102 1/2
Milwaukee	106 1/2	89 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	99 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2	100 1/2
Chicago	67 1/2	56	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2
Kansas City	62 1/2	56 1/2	61	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2
Milwaukee	66 1/2	56 1/2	61	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2	60 1/2
Chicago	37 1/2	26 1/2	29 1/2	29 1/2	29 1/2	29 1/2	29 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2
Winnipeg	35 1/2	29 1/2	33 1/2	32 1/2	32 1/2	32 1/2	33	33 1/2	33 1/2	33 1/2	33 1/2	33 1/2	33 1/2	33 1/2	33 1/2	33 1/2	33 1/2	33 1/2	33 1/2	33 1/2	33 1/2	33 1/2	33 1/2	33 1/2	33 1/2	33 1/2	33 1/2	33 1/2
Minneapolis	29 1/2	24 1/2	27 1/2	27 1/2	27 1/2	27 1/2	27	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2	26 1/2
Milwaukee	37 1/2	26 1/2	29 1/2	29 1/2	29 1/2	29 1/2	29	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2	28 1/2
Chicago	59	45	57	56 1/2	56 1/2	56 1/2	57 1/2	57 1/2	57 1/2	57 1/2	56 1/2	55 1/2	56 1/2	56 1/2	56 1/2	56 1/2	56 1/2	56 1/2	56 1/2	56 1/2	56 1/2	56 1/2	56 1/2	56 1/2	56 1/2	56 1/2	56 1/2	56 1/2
Minneapolis	59	42 1/2	52 1/2	51 1/2	51 1/2	51 1/2	51 1/2	51 1/2	51 1/2	51 1/2	51 1/2	50 1/2	51 1/2	50 1/2	50 1/2	50 1/2	50 1/2	50 1/2	50 1/2	50 1/2	50 1/2	50 1/2	50 1/2	50 1/2	50 1/2	50 1/2	50 1/2	50 1/2
Winnipeg	53	41 1/2	44	44 1/2	44 1/2	44 1/2	44	43 1/2	44 1/2	44 1/2	45 1/2	45 1/2	45 1/2	45 1/2	45 1/2	45 1/2	45 1/2	45 1/2	45 1/2	45 1/2	45 1/2	45 1/2	45 1/2	45 1/2	45 1/2	45 1/2	45 1/2	45 1/2
Duluth	58 1/2	46 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2	52 1/2
Minneapolis	40 1/2	35 1/2	38 1/2	38	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2	37 1/2
Winnipeg	42 1/2	34 1/2	39 1/2	39 1/2	38 1/2	38 1/2	39	39	39	39	39	39 1/2	39	39 1/2	39	39 1/2	39	38	38 1/2	38 1/2	38 1/2	38 1/2	38 1/2	38 1/2	38 1/2	38 1/2	38 1/2	38 1/2

\*At daily current rate of exchange.



## Oats Movement in February

Receipts and shipments of oats at the various markets during February, compared with February, 1935, in bushels, were:

	Receipts		Shipments	
	1936	1935	1936	1935
Baltimore	22,157	13,321	.....	.....
Boston	11,200	11,570	.....	.....
Chicago	1,307,000	211,000	1,211,000	518,000
Duluth	223,841	53,687	18,102	178,068
Ft. William	129,719	236,187	198,517	113,714
Ft. Worth	8,200	64,000	50,000	158,000
Indianapolis	418,000	250,000	458,000	272,000
Kansas City	152,000	118,000	126,000	152,000
Milwaukee	61,020	103,960	119,700	128,000
Minneapolis	848,070	169,790	632,430	909,200
New Orleans	.....	1,288,705	10,845	817,500
Omaha	186,000	96,000	441,000	221,378
Peoria	156,000	132,000	204,000	131,000
Philadelphia	25,766	46,153	.....	.....
Portland	62,439	26,621	11,156	73,499
St. Joseph	526,000	312,000	208,000	14,000
Seattle	22,000	.....	.....	.....
Superior	137,809	108	12,034	68,525
Toledo	229,600	1,046,570	163,485	1,007,720
Wichita	7,500	21,000	4,500	1,500

## Wheat Movement in February

Receipts and shipments of wheat at the various markets during February, compared with February, 1935, in bushels, were:

	Receipts		Shipments	
	1936	1935	1936	1935
Baltimore	4,940	218,435	300,635	175,954
Boston	567,600	.....	887,826	.....
Chicago	245,000	540,000	879,000	780,000
Duluth	159,586	125,388	517,006	248,844
Ft. William	680,833	2,000,221	36,337	21,872
Ft. Worth	196,500	45,500	175,500	



## Country Handling and Grading of Grain

A new project entitled "Country Handling and Marketing of Grain" has been set up by the Extension Service in cooperation with the Bureau of Agricultural Economics. The object of this project is to assist grain producers and country dealers with problems of grading grain in accordance with the official grain standards of the United States and with problems of handling grain so as to obtain the best market return.

W. P. Carroll, who has been selected to head this project, was for ten years in the old Grain Standardization work, up to 1919, serving at New Orleans, St. Louis and Chicago. In 1916 he entered Federal Grain Supervision, and has since served that division continuously in Chicago.

Mr. Carroll will maintain offices at General Field Headquarters of Federal Grain Supervision, at 808 Post Office Building, Chicago.

## Meeting Trucker Competition

Three schools of thought have arisen among grain dealers on the manner of meeting the competition of truck merchandisers who buy grain direct from the farmers and haul it to terminals.

One plan calls for the organization of the country shippers in a protest to terminal markets, threatening to cease the rail shipment of grain to any terminal that accepts grain by truck. This plan erroneously presumes it is within the power of the terminal receivers and commission merchants to force all buying factors in the market to cease dealing with truckers.

The second lays the burden of competition upon the railroads. Some roads are reported to be studying plans whereby local pick-up service would be instituted on grain as well as package freight. The plan involves rebating to the elevator an allowance on the freight bill for local hauling of grain to the elevator. This is an indirect means of cutting freight rates, applicable only on intrastate business, over which the Interstate Commerce Commission has no control. Its proponents believe truck competition is a railroad problem.

The third school believes that God helps those who help themselves. It is up to the local elevator to find means of meeting its competition, or else turn the business over to its competitors. This school plans to buy trucks and send them direct to the farms to pick up grain purchased and bring it to the elevator, where it may be shipped by rail or sold to long distance haulers using trucks, as indicated by prices offered. Some of the most progressive elevators lean to this scheme for fighting fire with fire. They expect to see territories widened, while many elevators unable to adapt themselves to the practice of going after grain before the truckers buy it will gradually lose their farm patronage.

The third plan, "Root hog or die!" gives the greatest promise of success. It is supported in the experience of the portable milling industry. Where grain dealers themselves bought portable mills and offered on-the-farm service to their patrons, they seldom suffered from the competition of portable grinders. In many sections elevator operators have purchased or hired trucks and successfully bid for grain at the farm. The enterprising dealers, even when located within trucking radius of a terminal market, do not appear to have suffered from competition with foreign truckers.

A. F. Bendtschneider, manager of the Farmers Elevator & Supply Co., at Morrison, Ill., says: "I hate to think that the grain dealers will be forced into the trucking business. But with truckers paying more at the farms than the elevators can afford, and selling to feeders in other parts of the country cheaper than the grain dealers in feeding sections can, something surely must be done. I can't understand how the trucks manage to stay in business."

# Effects of Agricultural Legislation in the Southwest

By Dr. A. B. Cox, Chief, Bureau of Business Research, University of Texas

Effects of agricultural legislation in the Southwest are too complicated to treat satisfactorily in a brief discussion. This is true because there is a grave misunderstanding and general misconception about the extent of the Southwest, its resources and capabilities, the stage and trend of its development and the relation of its activities to the rest of the United States and the world.

That portion of the United States known as the Southwest constitutes almost a third of the total land area of the country as a whole. It is the most misunderstood and the most under-rated section of the United States.

It is very significant that the vast resources of the Southwest are peculiarly adapted to large scale utilization. It is this combination of great resources with a prairie environment, which has led to development thru large scale operations, and thus explains the prevalence of 100,000-acre ranches, 20,000-acre wheat fields and 1,000-acre cotton farms; these, in turn, explain the enormous surplus production. So far, the surpluses coming from this region have consisted mainly of feeder livestock, wool, cotton, wheat, and petroleum and natural gas—all important, basic raw materials. On the other hand, the location and the varied resources decree that great manufacturing enterprises will be located in this region in increasing numbers.

**Pressure of Southwest Production as Cause of Demand for Relief.**—The Southwest may have become a menace to some other regions of the United States; however, if it has, it is not because of an occasional dust storm originating generally in a very small area, but it is rather because it is the source of an ever-increasing avalanche of staple products produced by machine methods which threaten to force the reorganization of economic life of some earlier developed regions.

During the five years preceding the depression (1924-25 thru 1928-29), the Southwest had 67 per cent of the area planted to cotton in the United States. It produced 56 per cent of all the cotton grown in the United States and 33 per cent of the total production of the world. This enormous increase in production is very significant; but it is far more important to realize that very little of this cotton is consumed in the Southwest.

According to the United States Department of Agriculture the Southwest contained about 47 per cent of the beef cattle of the United States in 1934, 31 per cent of the sheep which produced about 33 per cent of the wool of the nation, and 93 per cent of the Angora goats.

The significance of the large proportion of the basic agricultural raw materials and food products of the United States coming from the Southwest becomes all the more striking when it is realized that this region with so large production contains only about 15 per cent of the population of the United States.

**Will Dominate the Modern World.**—In order to complete the broad characterization of the Southwest, it is necessary to bring out the fact that energy resources, particularly the minerals, furnish the key to the domination of the modern world. Petroleum and natural gas have within recent years assumed a predominant place among the energy resources. At the present time, the Southwest is producing 70 per cent of all

the crude petroleum produced in the United States and furnishes about 45 per cent of world production. At that, this region is producing a very small per cent of its potential capacity. I am told by the Texas Railroad Commission, which has charge of proration in Texas, that the East Texas field is permitted to produce but 2.8 per cent of capacity. It is estimated by the best authorities, that Texas alone has over 50 per cent of all the known reserves of petroleum in the United States, and 25 per cent of the known reserves of the world.

The economic pressure of the low-cost machine production of the Southwest on other regions of the United States does not present a new phenomenon; neither are the reactions of the affected regions exceptional. English farmers and land barons tried to protect themselves against American competition by means of the Corn Laws, but in spite of the most drastic efforts, the English were driven to develop their resources for trade and manufacture in order to employ their people. The opening up of the Middle West in turn drove New England and the Middle Atlantic States into trade and industry. How strong the pressure from this Southwest will become and how drastic the adjustments which will be forced elsewhere, remains to be seen. Certainly an attempt to block development by restriction of production is in reality an attempt to force a lower standard of living on the country as a whole and economic reorganization on the Southwest.

The cotton restriction program is a result of pressure of the Southwest on the Southeast. The livestock restriction program is in part the reaction of the Middle West to the pressure of the livestock and vegetable oil industries of the Southwest. The wheat restriction program is more complicated in source of origin in that the major causes are international in character. The development of wheat-growing in the interior plains of the Southwest has been paralleled by production in similar environments in Australia, Canada and Argentina. Since 1910-14 the annual surplus production of these four sub-humid interior plains areas has increased over 300,000,000 bus. At the very time this enormous increase in surpluses was coming from these broad plains, the outlets for such surpluses were shrinking, due to the post-war efforts of the nations of the world to become self-sufficient.

Probably the most pitiful case, and the most urgent, is the tremendous pressure of the spouting oil wells of the Southwest on the coal industry, not only of the United States, but of the whole world. The Guffey Coal Act is one of the results of the pressure of the abundant supply of cheap petroleum and natural gas coming from the Southwest.

The end of this economic pressure from the Southwest is not yet. Indeed restriction of crop acreages combined with the natural advantages this region has for the large-scale development of certain types of manufacture is going to develop strong competitive pressure on industries in the North and East.

**Remedy Proposed.**—Briefly, the remedy proposed and adopted to alleviate this economic pressure of volume production in the Southwest was horizontal reduction of production. The amount of faith put in so simple a remedy by the administration and its advisers to cure so complex a problem



is indeed remarkable. Probably the best and most authoritative statement of this philosophy is a booklet written by Mr. Mordecai Ezekiel, Economic Adviser to the Secretary of Agriculture, and Mr. Louis H. Bean, Economic Adviser of the Agricultural Adjustment Administration. In their booklet, *"Economic Bases for the Agricultural Adjustment Act,"* we are told that the act, its methods and procedures, are based on the experience of the vast body of economic research which has been developed by the Department of Agriculture. They say:

"The methods and procedures provided for by the Agricultural Adjustment Act are in full harmony with the workings of the so-called 'law of supply and demand.'"

After discussing the failure of the Farm Board, these gentlemen made the following concise statement of the administration's philosophy of levying processing taxes to get money to restrict production to bring about parity price as a solution of farm problems. They state:

"The act aimed to avoid the mistakes of earlier legislation by providing for control of production. Thus, the authority to levy processing taxes and to arrange for benefit payments to farmers in return for the restriction of production, permits the Secretary of Agriculture to perform exactly the type of operations which previous attempts had shown were necessary for effective action to remove and prevent surpluses. . . ."

"The basic provisions of the Agricultural Adjustment Act provide for no new rigidities in our price mechanism; instead, the measure offers price parity as a workable concept of balanced price relationships."

This strange philosophy of planned scarcity to secure abundance has apparently grown out of a discovery that short crops in the past have often brought more money than large crops. Evidently it did not and has not occurred to these gentlemen that there may be a great difference between the results of random short crops brought about by unexpected adversities and planned ones, and especially, where an appreciable per cent of the crop is exported, or where the crop or a substitute for it can be grown quite generally.

Before going into analyses of results of the reduction program, let us examine it from the standpoint of sound economics. Agricultural relief based on horizontal quota reduction of acreage to reduce supply to raise price is economically unsound. It violates every principle of economics in that it tends to prevent shifts from high-cost to low-cost producing areas; it prevents the efficient producers from expanding their operations and keeps inefficient producers from being eliminated; it artificially stimulates expansion of production, especially in uncontrolled areas, and thus aggravates the very problem it is supposed to cure; it is founded on the false assumption that farm prices and income are the same, whereas, as a matter of fact, parity price may be raised and parity income lowered at the same time

if the method of raising prices is by reducing production.

The program teaches the individual to seek economic relief through political means, rather than economic methods. Thru processing taxes the program raises the cost of living and tends to restrict outlets for farm crops; it kills initiative and self-reliance of the individuals affected. In a country and in a world where there are millions on relief, and still more millions unemployed, a program of restriction of production is the height of folly.

The cotton restriction program has reduced the gold value of the American cotton crop. The 1930-31 crop brought 15,394,000,000 grains of gold, the 1931-32 crop 11,317,000,000 grains, the 1932-33 crop 9,816,000,000 grains, the 1933-34 crop 8,676,000,000 and the 1934-35 crop 7,861,000,000 grains of gold. Counting all benefit payments the 1934-35 crop brought less gold than the 1932-33 crop at the very bottom of the depression.

Get this fundamental fact: American agriculture is commercial agriculture, and commercial agriculture is based on a condition of regional specialization and surplus production where each region depends on the other regions for a market. Cotton production is both highly regionalized and specialized. Cotton is a cash crop and cotton growing a cash enterprise. When cotton is bringing relatively good prices, most cotton growers prefer to devote their land to cotton and buy a large share of their meat, bread, and fruits and vegetables, as well as manufactured products. The more than 2,000,000 cotton growers and the thousands of laborers necessary for harvesting, processing and marketing the crop have furnished, therefore, one of the largest and best cash markets for the products of the Corn Belt, the wheat producing areas, the dairy regions, and the producers of canned goods, as well as manufactured products. A loss of the foreign market for cotton of the Southwest or any large portion of it, will force serious reorganization of agriculture in the Southwest, and that will in turn force reorganization throughout the entire country. The final result from such an eventuality will be fifty crops with surpluses, rather than one.

As a result largely of the agricultural control policy, the Southwest finds itself confronted with a stupendous problem in adult education and reemployment. The problems of relocating and teaching thousands of adults new occupations. Is agriculture resettlement the answer? No. Already the trend of employment in the Southwest was away from agriculture before the beginning of Government control, in spite of the fact that the trend in agricultural production was still sharply up. Under a program of restricted agricultural production of the staple crops of cotton and wheat, the trend away from agriculture will be still greater. Most

of these people are now on Federal relief and hoping to be put on some Federal works project. After that,—what?

**Creation of Class Strife.**—The A.A.A. and other agricultural legislation to cut down production and raise prices, and the propaganda that has accompanied the enactment and enforcement of these laws will do more to create chaos and regional strife than all previous agricultural legislation. Unfortunately, emphasis has been placed on the conflict of interests between the producers of feed and raw materials and the industrial and ultimate consumers, rather than on their common interests. The control program is also inevitably bringing out the sharp conflict of interests between different agricultural groups and regions themselves.

These very important facts and conditions are mentioned to prevent hoodwinking, but more especially to point out the very significant fact that the agricultural group in the United States at best is a minority group, representing a minority interest, and that the creation of class strife and the intensification of regional competitive interests will in the long run be detrimental to agriculture. The fact is, it is entirely possible, yes, probable, that the manufacturing and commercial interests will follow the example of England when it became predominantly industrial, and demand and get the cheapest food supplies and raw materials to be had anywhere in the world so that they can compete more successfully in world markets. This will mean the end not only of processing taxes, but of agricultural tariffs as well.

## A Warehouse Formed of Box Cars

By F. L. CLARK

A novel addition to the elevator of Hall Roberts' Son at Postville, Iowa, to take care of a fast growing feed and seed business, is a box car warehouse set up beside the elevator.

Six box cars were purchased from the Milwaukee railroad at a cost of \$360 delivered. Two adjacent lots owned by the Roberts company gave a site for the warehouse. Twenty-eight concrete piers bridged by street car rails support the floor at a proper level for loading and unloading from the railroad and the six cars mounted on them in three rows, two cars in each row form an inexpensive storehouse. The ends of the cars where they joined in each row were removed to provide a single room two cars long. The side doors of the adjoining cars were removed allowing passage from one room to another. A roof was built over the assembled cars. Floors of the new warehouse at track side are on a level with floors of cars on the switching track facilitating the unloading of cars. Trucks can be conveniently loaded or unloaded thru sliding doors on each side of warehouse.

The middle row of cars of the warehouse are filled with wheat seed in sacks and the outside cars hold a car each of South Dakota ear corn. The doors were boarded up for the winter, and two stoves kept the rooms warm.

"It cost \$1,000 to build the piers, roof and hire the cars moved onto their foundations," Mr. Roberts said. "We feel, however, it was money well spent and that we have a real warehouse." This spring the warehouse is to be treated to a coat of paint, to obliterate the birthmarks of its humble origin.

The wheat conference that was to have been held Feb. 25 has been postponed by W. D. Euler, Canadian minister of trade and commerce.

Japanese poultry feeds make extensive use of ground acorns. Several years ago Toyohiko Kagawa analyzed them, and found means to mill and mix them in poultry feed formulas.



Warehouse Formed of Box Cars at Postville, Iowa.



## Supreme Court Decisions

Digests of recent decisions by State and Federal Courts involving rules, methods and practices of the wholesale grain, field seeds and feedstuffs trades.

**Power of Congress** to regulate interstate commerce does not authorize it to tax products before entering interstate commerce or otherwise to control their production, tho their production may indirectly affect interstate commerce.—*Butler v. U. S. Circuit Court of Appeals*. 78 Fed. (2d) 1.

**Measure of Shippers' Recovery** for loss or damage to goods is normally market value at destination, in like condition goods were when shipped, on date when they should have arrived.—*The Ansaldo San Giorgio v. Rheinstrom Bros. Co.* Supreme Court of the United States. 55 S. Ct. 483.

**Warehousemen**—Assignee of non-negotiable warehouse receipt in suit against storage company for value of goods which storage company shipped to original bailor held limited to recovery of valuation placed upon goods at time of storing thereof, where there was no proof that storage company, in shipping goods to original bailor, acted fraudulently.—*Fidelity Storage Co. v. Kingsbury*. U. S. Circuit Court of Appeals, District of Columbia. 76 Fed. (2d) 978.

**Recovery of Processing Tax**—Flour milling corporation paying processing tax imposed under AAA held, in event taxing statute was declared unconstitutional, entitled to maximum of more than 6 years from date of payment to file suits for refunds which would be obtainable in lump sums; hence no necessity existed for suing monthly.—*Fisher Flouring Mills v. Vierhus, Collector*. U. S. Circuit Court of Appeals. 78 Fed. (2d) 889.

**Damages for Discrimination**—Phrase "full amount of damages" within provision of Interstate Commerce Act making carrier liable for full amount of damages sustained in consequence of violation of act, includes damages for injury to business, including shrinkage of normal business profits. Interstate Commerce Act, Sec. 8.—*Terminal Warehouse Co. v. Pennsylvania R. Co.* U. S. Circuit Court of Appeals. 78 Fed. (2d) 591.

**Taxation Under Washington Agricultural Marketing Act**—State held not entitled to recover moneys deducted or retained by private dealer from growers by virtue of Agricultural Adjustment Act and marketing agreement and rules and regulations adopted thereunder before Act was declared unconstitutional, since assessments were levied only on the dealer and were not a tax for the support of the government. Agricultural Adjustment Act relating to price-fixing and market control of products produced within the state of Washington held unconstitutional because of invalid delegation of legislative power.—*State v. Matson Co.* Supreme Court of Washington. 47 Pac. 1003.

**Embezzlement of Refunds**—The Acme-Evans Co. sued the C. & St. L. Ry. Co. for \$102,435.17 for refunds due on inbound freight charges on grain later shipped out as grain products. The railroad claimed it had been authorized to make payments to "E. R. Bacon" upon claims presented by Harry J. Irwin in the name of E. R. Bacon. After Irwin died the milling company discovered that Irwin had cashed the checks and converted the money to his own use. Irwin was traffic manager and also a stockholder and director in the Acme-Evans Co. He had entire charge of traffic matters and the court held that he was authorized to present and collect claims. The court said, "E. R. Bacon was not in fact a third party. He was Irwin." "Payment to Irwin was payment to Acme-Evans Co. Subsequent embezzlement by Irwin was Acme-Evans' loss, not that of the railroad company."—*U. S. Circuit Court of Appeals*. 78 Fed. (2d) 543.

**Brokers**—Agent generally earns commission for sale of commodity when he finds acceptable buyer with whom principal makes valid contract, altho buyer later proves financially unable to comply with contract, except where agent acts in bad faith.—*Williamson, Inman & Co. v. Thompson*. Court of Appeals of Georgia. 179 S. E. 289.

### The Best Country Elevator in Missouri

Located on the main line of the Missouri-Pacific some 70 miles east of Kansas City, it has been only in recent years that Knobnoster has been recognized as more than a country shipping point. The present storage and transfer business that the "Knobnoster Elevator" is doing, is the happy result of untiring efforts on the part of two young men, L. P. Lay and W. J. Carr, who, until comparatively recently, were new to the grain business.

The original concrete head house of the plant was built in 1915 by the J. J. Culp Grain Co., and has a capacity of 50,000 bushels. Equipment and facilities were those of an ordinary country elevator, which, for many years, proved entirely adequate for handling the business. After the death of Jesse J. Culp, in 1927, and the retirement of a partner, W. R. Greim, a few years later, the present owners purchased the business.

With increase in activities, it was found necessary to enlarge storage facilities, and this led to a 60,000 bus. addition this year. The new part consists of four concrete tanks joined to the main plant by a concrete gallery and full concrete basement, with screw conveyors on top and bottom of tanks, 2 10-h.p. motors driving the conveyors.

A new head-drive with totally-enclosed 15-h.p. motor has been installed for the single steel leg in what now has become the head-house. The driveway has been lengthened, and a new truck lift installed, as well as a grain cleaner.

A complete job of rodding for lightning protection has been installed. The plant is fire-resistant thruout, including steel sash, structural steel supports, steel stairways, rolling steel shutter driveway doors.

This is about the finest country elevator in the state. Up-to-date country elevators are few



"Knobnoster Elevator," Knobnoster, Mo.

and far between in Missouri and the owners are to be complimented upon the fine business they have developed. The tank addition was erected by the Keystone Construction Co.

### Breeding New Sorghum Varieties

In the present sorghum breeding program of the Texas Exp. Station kafir, hegari and feterita are being converted from white-seeded to yellow-seeded types. At the same time, a factor for resistance to leaf spot is being introduced into these three varieties, as well as into milo and sumac sorgho. This factor for leaf spot resistance is associated or genetically linked with a factor which produces a chocolate colored glume, so that these new leaf spot resistant varieties, when ready for distribution, may be "trade marked" by a distinctive glume color.

Sumac sorgho, a popular forage sorghum, a sweet sorghum, is being converted to a white-seeded or tannin-free type. Resistance to leaf spot and a distinctive glume color are also being added.

Sudan grass, which was first introduced by the Station and has since become the most valuable annual pasture crop in the Southwest, is being converted to a juicy, sweet-stemmed type with resistance to leaf spot and a distinctive glume color which will identify it from the present-day sudan. Also pithy strains, similar to the present variety except that they carry resistance to red spot and produce white seed, are in the process of development.

It has been found that by the proper combination of varieties in hybridization, marked increases in both grain and forage yields, as much as three hundred per cent in some instances, can be obtained in first generation crosses. Frequently large increases in production, due to hybrid vigor, carries over into the second generation. Experiments and breeding operations are in progress looking forward to the mass production of crossed seed so that a practicable method may be evolved for utilization by farmers of this hybrid vigor effect in sorghums, that is, increased vigor and yield of the crop planted from crossed seed over that expected from either parent of the cross.

Hybrid No. 5, a selection from a cross between kafir and milo, a yellow-seeded type partially resistant to milo disease and with better forage qualities, has recently been distributed to limited extent and if it continues to prove promising, will be widely disseminated. In several important milo-growing regions in the state, this crop is suffering severely from attacks by disease. Selection for disease resistance is being attempted and, at the same time, hybridization with resistant varieties and backcrossing to milo, a slower but somewhat more certain method of attaining results, is under way.

The pure lining of the grain sorghums has not only increased the yields by inclusion of only the highest yielding types, but by causing more uniform maturity, thereby helping to evade damage from sorghum midge. Uniform height has also been secured which facilitates harvesting the heads by machinery.

Thus the breeding work of the Texas Station with this important crop has removed it from the category of doubtful and erratic yields and has enabled uniformly high production under practically all of the soil and climatic conditions prevailing in the Southwest.

The Supreme Court of the United States heard argument Feb. 27 on the government's petition for a review of the circuit court decision in favor of Arthur W. Cutten, charged with concealing his transactions in violation of the Grain Futures Act. The court Mar. 9 consented to a review.



## Causes of Heat Damage

By R. O. CROMWELL before Chicago Elevator Superintendents

The phenomenon known as respiration is responsible for the heat energy released in a mass of damp grain. Oxidation or respiration in grain, which if prolonged provides conditions favorable to fermentation, is due to the presence of reducing sugars which are unstable because of limited units of oxygen in their structures and the presence of oxidizing enzymes. The reducing sugars have high affinity for and absorb any loosely held or free oxygen. Left over products resulting after oxidation are carbon dioxide and water and oxidation is the first step in decomposition.

Greater oxidation takes place in the gluten of the young germ than in the main body of the seed. Natural germination of a seed begins with oxidation, and germination actually is a breaking down of the kernel outside of the germ and may in a sense be called decomposition in which the young germ or seedling uses some of the resulting products as food. The filling and maturing of a seed in nature is similar in some respects to the reverse of the germination process since in the former more complex substances are built up as they are being laid down in the developing kernel.

**Accumulation of Heat.**—Since grain is a poor conductor of heat, it follows that released respiration-heat-energy accumulates in mass in proportion to its bulk and the temperature in time may become considerable. The heat released is also in proportion to the moisture present. The greater the moisture the more rapid its diffusion thru the materials in the kernel and the more rapid the diffusion the more rapid is respiration and production of heat.

At increased temperatures the same heat is produced with less moisture. Moisture diffuses more rapidly thru soft than thru a hard vitreous kernel, and thru gluten more rapidly than thru starch. Therefore, moisture diffuses more rapidly thru shrunken kernels (lower in proportion of starch) as a result of rust, drouth and hot winds than thru plump kernels and therefore heat more easily.

Frosted, sprouted and diseased kernels heat more easily than normal ones because some splitting up of the gluten has taken place which also increases moisture diffusion and respiratory heat. Respiration occurs in oxygen free air but just over one-third as much as in normal air.

We have dealt above with causes of heat damage. Let us now consider some of the more practical data and its application.

Increasing temperatures have increased respiration in wheat until a temperature up

to about 135 degrees at least has been reached in the stored mass. Heated corn has been recorded up to 145 to 147 degrees. In considering the spoilage of grain from respiratory heat we can do no better than to summarize accepted views as was done in a June, 1931, article on wheat by Dr. D. A. Coleman of the Grain Division of the Bureau of Agriculture Economics. Studies show that damage to wheat is due to harvesting and storing with excess moisture either on the outside of the grain and straw or naturally within the undried tissues. The amounts of heat and moisture and the time of exposure determine the extent of spoilage.

If moisture at storage is moderate (15 p. c.) and heat is at 75 to 85 degrees respiration and resulting fermentation proceed slowly. The first symptom other than temperature rise is the wet or dank odor of so-called sick wheat. Later under these same conditions a considerable part of the oxygen around the kernels is used up (a partial anaerobic condition) and a group of soil microorganism develop in the bran coat elaborating a characteristically earthy or musty odor. Variations in the kind of organisms working vary the intensity and type of odors. On the other hand if we assume 16 to 17 p. c. moisture and low temperature, 75-80 degrees, mustiness will immediately develop masking other odors. At higher moisture yeasty or sour odors mask all others.

**Velocity of Fermentation.**—Increasing temperature by 10 degrees but maintaining the same moisture mentioned will double the velocity of fermentation. At these temperatures and with more moisture wheat discolors and heat damage makes its appearance. If temperature is between 100 and 115 degrees as it often is at harvest, the development of musty, earthy, moldy odors does not take place. Instead sharp acid odors appear and as moisture increases discoloration is rapid and the result is "skin-burned," or "mahogany" kernels. Death of the germ takes place at varying points in the process as conditions vary.

Strong and weedy odors and types of earthy odors develop when moist wheat is stacked with excess moisture, with large amounts of green damp weeds or left to weather for some time in the shock.

The cause of heating is the same in all grains. The resulting damage to each kind in storage is similar and varies only as the difference in harvesting and handling methods varies the combinations of the factors involved.

Natural variations of weather during growth affect the chemical make-up of grain kernels and therefore to some extent their keeping qualities as already explained. In this respect the farmer can alter the result-

ing product only in a limited way by providing optimum soil fertility, good cultivation, aid in control of diseases and intelligently timed cutting. But over the more important agents of injury, heat and moisture in the mature grain, both grower and handler may exercise considerable control.

Other than the mechanical and the respiratory types of kernel injuries, the main damage to grain occurs during growth and is the result of disease and objectionable odors. Garlic and smut are the main odors and are not difficult to prevent on the farm.

## Books Received

**STATISTICAL ABSTRACT OF THE UNITED STATES, 1935**, is a compilation of over 800 pages of authoritative statistics showing the trends in trade and industry, as well as social progress. The volume is divided into sections classifying statistics on population, education, money, banking, national wealth, employment, transportation, commerce, farms, crops, fisheries, mining, wholesale and retail distribution, and construction, in a manner helpful to merchants and manufacturers in planning production, sales, advertising, and marketing. Compiled by the U. S. Department of Commerce, Indexed. The Government Printing Office, Washington, \$1.50.

**PYROIL COMPANY ISSUES METALLURGICAL REPORT.**—A report on the beneficiation of lubricating oils in their application to cadmium-silver, copper-lead and babbitt metals, issued by Pyroil Company, is now available without obligation to the trade and to all others, on request to Pyroil Company, La Crosse, Wis. This report, prepared by J. A. Comstock, metallurgist, contains charts and photomicrographs highly interesting in character. By means of photomicrographic reproductions, various degrees of chemical and mechanical attack on different metals, and the control of the same is indicated under varying load and temperature conditions. The report comprises 6 pages of reading matter, 6 pages of photomicrographic illustrations and a graph, prepared in an interesting and enlightening manner.

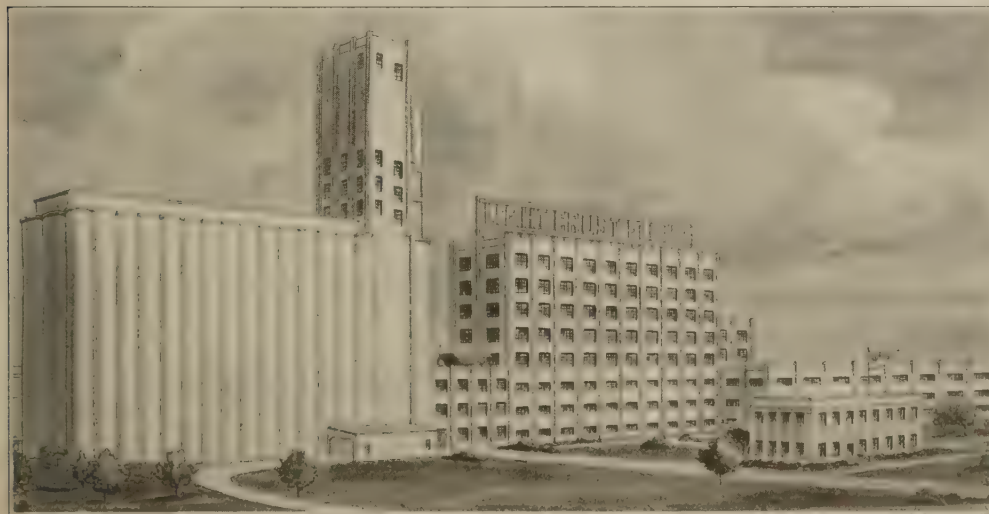
**AN ECONOMIC ANALYSIS of Local Grain Elevators in Indiana**, by A. F. Hinrichs, farm management department of Purdue University, reports averaged information on character of business, and volume of business of 79 elevators in Indiana. The elevators are divided into two groups, those handling grain principally, and those having the largest volume of their business in sidelines, and shows greatest efficiency in the grain group, which with \$798 less gross income, showed \$1,139 more net income than the sideline elevators. The most successful elevators perform their services at the least cost, according to Hinrichs. Labor and management constitute half the cost of elevator operation, hence increased volume lowers costs. The solving of internal problems is the greatest contributing force in the success of country elevators. Bulletin No. 403. Published by Purdue University, Lafayette, Ind.

## New Elevator at Fort Worth, Tex.

Great public interest was manifested in the dedication of the new 500,000-bu. elevator and 4,000-bbl. mill of the Burrus Mill & Elevator Co. at Fort Worth, Tex., recently. Streams of visitors poured thru the plant and were regaled with a barbecue luncheon.

The grain elevator is 200 ft. long, 100 ft. high and 41 ft. wide, built of concrete reinforced with steel. The head house is 180 ft. high.

Trucks are unloaded thru a dump in front and cars thru sinks in rear. The legs elevate the grain at 8,000 bus. per hour to a longitudinal conveyor belt, with tripper to fill the bins. The plant includes a corn mill and feed plant.



New 500,000 bus. Elevator and Mill at North Fort Worth, Tex.



## An Economical Indiana Elevator

Economical receiving and shipping features the one-man elevator of the Atkinson Grain Co., at Atkinson, Ind., built by Charles Flora to replace an old elevator that was destroyed by fire.

The new elevator is of cribbed construction, and rises 75 ft. above its 39x34 ft. foundation and basement. Included in the dimensions is a 20x9½ ft. bin, lined with heavy screen wire to hold either ear corn or oats. Five other bins in the elevator, one of them over the workfloor, make up a total capacity for 20,000 bu.

The driveway is 14 ft. wide and 11 ft. high. In it is a McMillin traveling truck hoist, and the platform of a 10 ton Howe dump scale.

The single receiving pit has a trap door so balanced that it requires almost no effort to open it for receiving grain. Ear corn as well as small grain is fed to the boot over a shaker feeder, which insures quick clearing of the pit.

The leg contains a 17 inch rubber covered cup belt with 16x8 inch cups set on 18 inch centers. It will elevate 2,500 bushels per hour. The shaft of the head pulley turns on Hyatt roller bearings. On the cupola floor is a 10 bu. Richardson automatic scale to serve this fast handling leg in loading cars.

Power is supplied by a 20 h.p., 4-cylinder Waukesha gasoline motor in a fire resistive basement and furnace room under the office, which adjoins the driveway. It is surrounded by concrete and plastered walls, drawing its gasoline from an underground fuel tank, and purring its exhaust thru piping to a safe point outside the building.

A belt transmits the power to a driveshaft in the basement of the elevator. Belts transmit power from this driveshaft to the shaker feeder ahead of the boot, and to the truck hoist in the driveway. A Columbian rope drive carries power from this shaft to a jack shaft in the cupola, thence by roller chain to the head shaft. A generator and battery are attached to the motor, to supply electricity for the lights in the driveway and in the office.

The motor is equipped with a starter. Simple rope controls are carried thru the floor above to the driveway wall in the office. These controls make it unnecessary for the operator to leave the office. A light pull on a rope chokes and starts the motor, another rope throws in the clutch and elevator is in operation about as conveniently as tho equipped with electric buttons.

All of the power transmission machinery, bearings, metal spouting and the shaker feeder as well as the Western manlift that operates

between the up and down legs in the leg well, were supplied by the Union Iron Works. The leg well also contains a stairs.

A novel arrangement to insure proper oiling of the idler pulley shaft, just below the workfloor on the down leg, is extension of two light oil lines from the bearings thru the floor. This facilitates oiling of these inconveniently located bearings.

The elevator is owned by W. F. Starz, Harry and Walter Stembel, and is managed by E. H. Stembel.

## Illinois Country Elevators May Charge for Storage

Senate Bill No. 15 has been passed and is before the governor for signature.

Country grain elevators, hitherto unregulated, will be forced to take out a license, give bond and post storage charges, if they mix the grain of different owners, thereby placing themselves in Class B.

Class B warehouses are those in towns of less than 100,000 inhabitants in which grain is stored in bulk and in which the grain of different owners is mixed together. Just as soon as an elevator operator places in his house grain not owned by him he automatically makes himself an operator of a Class B warehouse. The only way he can escape the law is by paying for the grain and having title in himself. Thus uncontrolled storage for others is a thing of the past in Illinois.

Sec. 3 provides that the operator of a Class B house must apply for a license to the Illinois Commerce Commission, under penalty of \$5,000 fine or six months' imprisonment.

Sec. 4 provides that a bond shall be filed on the basis of 10 cents per bushel of storage capacity, but for not less than \$5,000.

Sec. 6 compels warehouseman to receive all grain tendered.

Sec. 15 requires him to post his storage charges every January, and limits the charge for the first 10 days or part thereof to 1¼ cents per bushel and for each 10 days or part thereof after the first 10 days to one-half of one cent per bushel.

## Farm Relief Payments

A.A.A. Controller John B. Payne on Mar. 3 released detailed statistics on income and outgo of the A.A.A. in the calendar year 1935.

Salaries to the bureaucrats controlling the farmer totaled \$33,463,825, and their traveling expenses were \$4,513,999, other expenses bringing the total up to \$42,013,484, or 6 per cent of the disbursements.

Rental and benefit payments to farmers co-operating in seven crop adjustment programs during the year totaled \$580,821,074. The payments included \$130,969,459 to cotton producers; \$108,874,715 to wheat farmers; \$34,259,172 to tobacco farmers; \$237,872,609 to corn-hog farmers, \$57,032,852 to sugar producers; \$9,383,015 to rice growers, and \$2,429,249 to peanut farmers.

Other expenditures included \$51,893,845 for drouth relief, food conservation, and disease eradication operations; \$11,211,413 for removal and conservation of surpluses; \$15,890,684 for trust fund operations under the Bankhead cotton and rice programs, and \$42,013,484 for general administrative expenses.

The total expenditures of the A.A.A. for 1935 were \$701,830,501.

In 2½ years the A.A.A. paid out \$1,480,057,513. The processing taxes fell short of meeting the outgo, the difference being made up from other sources.

On the basis of all funds combined, the operations of the A.A.A. from May 12, 1933, to Dec. 31, 1935, showed a deficit of \$69,800,942. Since the report was prepared tax collections for last December have added \$7,971,532 to the A.A.A. funds to bring the actual deficit to \$61,829,410.



Atkinson Grain Co.'s Elevator at Atkinson, Ind.

## Confirmation Blanks

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Fifty confirmations in triplicate, bound with pressboard and wire stitched, size 5½x8". Order Form No. 6 CB. Weight, 9 oz. Price 75c; three copies \$2.00, plus postage.

**Grain & Feed Journals**

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Direct Reduction Grain Tables on cards reduce any weight from 600 to 12,090 lbs. to bushels of 32, 48, 56, 60, 70 and 75 lbs. by 10-pound breaks. Just the thing for truck loads.

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# Grain and Feed Trade News

Reports of new firms, changes, deaths and failures; new elevators, feed mills, improvements, fires, casualties and accidents are solicited.

## ARKANSAS

Texarkana, Ark.—The Temple-McCoy Grain Co. contemplates installing a corn cracker.

Texarkana, Ark.—The Texarkana Grain & Grocer Co. has liquidated and Mr. Hayden, formerly head of the company, is in the lumber business. The company did not operate an elevator.

## CALIFORNIA

Marysville, Cal.—The Strain Public Warehouse is having a barley mill installed in one of the buildings of its plant, which will clean, steam and roll barley for feed purposes. The warehouse is already equipped with bean cleaning facilities. Maury Strain is manager.

## CANADA

Montreal, Que.—The Canadian Wheat Board has closed its office here, Mgr. Wm. H. Johnston, Jr., returning to private life, as a step toward the goal of getting the government out of the grain business.

Three Rivers, Que.—The Three Rivers Grain & Elevator Co., Ltd., is offering \$400,000 of its bonds to the public, the 5½% first mortgage bonds being offered at 98½% and accrued interest to yield \$5.65. The officers of the company, which, as previously reported in the Journals, have let the contract for the erection of a 2,000,000-bu. elevator here, are as follows: Chairman of the board, James Norris; pres., C. C. Fields, vice-pres., G. C. Leitch; manager, G. F. Briggs.

## COLORADO

Brush, Colo.—The Farmers Elevator Co. has just erected a new implement house, 60x80 feet, of frame construction.

Branson, Colo.—The Ward Bean & Elevator Co., operating elevators at Farley and at Mt. Dora, N. M., has bot the elevator at this point built by Chapman & Bailey and moved it to Farley.

Durango, Colo.—An up-to-date feed milling plant has been completed at the elevator of the San Juan Roller Mills, owned by the Graden Merc. Co. The new plant, of which Lloyd Case is the manager, has a capacity of 10 tons per day and consists of four main units: A pulverizing grinder, a one-ton capacity batch mixer, a molasses machine and a cracking and grinding machine.

Denver, Colo.—A 400,000-bu. elevator and 1,000-barrel flour mill will be erected by the Omaha Flour Mills Co., of Omaha, Neb., on a 7-acre tract of ground near the Union Pacific and Burlington tracks just north of this city. Contract for the design of the new plant was let to Horner & Wyatt. The elevator will consist of 10 tanks with 18 interstices, each 100 feet high; a headhouse 37x42 feet, 170 feet high; an elevator receiving leg of 6,000 bus. per hour capacity, receiving from a double railroad track sink, and one receiving leg of 3,000 bus. per hour capacity for a truck dump. The mill building will be of re-inforced concrete with face brick panels, six stories and basement, 45x92 feet. The elevator will be connected with the mill by an underground tunnel for conveying grain to the mill. A one-story office building, 30x40 feet, will adjoin the mill building. The new plant, which is to be completed by July 1, will be operated under the name of the Omar Mills, Inc., which was recently formed by the Omaha Flour Mills Co. Contract for the mill machinery has already been let.

## ILLINOIS

Monroe Center, Ill.—C. A. Crosby Co. hopes to install a larger scale some time this year.

Genoa, Ill.—Zeller & Son, managed by S. T. Zeller, plan to install a grate over the pit in their elevator driveway.

Oneida, Ill.—Carl Lingwall has replaced his corn cracker with a new, large capacity, Kelly Duplex Corn Cracker and Grader.

Kane, Ill.—Lightning struck the power lines to the elevator of the Farmers Grain Co., slightly damaging the property on Feb. 25.

Peoria, Ill.—The 43rd annual convention of the Illinois Grain Dealers Ass'n will be held in this city, at the Hotel Jefferson, on May 14 and 15.

Cazenovia, Ill.—Fire reported as probably being caused by an overheated clutch slightly damaged the property of the Cazenovia Co-op. Co. on Feb. 19.

Sycamore, Ill.—Installation of a truck lift and widening the driveway of the elevator are improvements contemplated by the Farmers Grain & Lbr. Co. E. S. Brooke is manager.

Gifford, Ill.—James Herbert, bookkeeper for 11 years for the Gifford Grain Co., has been made manager, succeeding Laurel Truman, who has been manager for 10 years.

Raymond, Ill.—F. A. Todd, at one time manager of the Farmers Grain Co.'s elevator here for many years, has taken over the Beatty Coal Co., also of Raymond.

Malta, Ill.—A. Theo. Peterson is adding a Kelly Duplex Attrition Mill Blower to his feed mill equipment. The blower will replace his former elevator leg for elevating feed from his mill. The blower is motor driven.

Sciota, Ill.—The Farmers Elevator Co.'s elevator here was struck by lightning at about 10:30 p. m., Feb. 25, and burned; both building and contents were a complete loss; building was covered by insurance. But a small amount of grain was in the elevator, 800 bus. of beans, no corn and 200 bus. of oats. The company plans rebuilding.

Cowden, Ill.—Sylvester S. Scovil, who formerly operated an elevator here, selling out in 1920, died at his home in Pana, Ill., where he has lived for a number of years, Feb. 20, after an illness of about two years with paralysis. Mr. Scovil, who was 72 years of age, was one of the prominent men of central Illinois and held the respect of all who knew him because of his strict adherence to square dealing.

Grayville, Ill.—A judge in circuit court recently ordered the transfer of the mortgaged property of George P. Bowman & Sons, Inc., to the National City Bank of Evansville, which held claims of approximately \$42,000 against the local firm. The bank held a mortgage against the elevator, flour mill, warehouse, cribs, barn and seven lots in this city. The estate of J. A. Cooper, Terre Haute, held a second mortgage of \$9,600 against the same firm.

Ina, Ill.—Arthur Clinton has purchased the S. O. Dunbar Mill and will handle meal, mill feeds, seed corn and other farm seed. Albert Gibbs is associated with Mr. Clinton in the operation of the mill.

Sullivan, Ill.—Purvis Tabor, manager of the Sullivan Grain Co.'s elevator, while riding a toboggan down a slide one evening last month, suffered a broken vertebra when he was thrown from the toboggan, and had to be put in a cast for six to ten weeks.

Bushnell, Ill.—D. S. Simonson, 65 years of age, who has been operating the Simonson Evtr. here for the past three years, lost his life, on Feb. 22, while attempting to put a belt on a fast-moving pulley. Apparently he had been violently thrown against the pulley or some other object, causing a cerebral hemorrhage. An employe, hearing Mr. Simonson cry out, shut off the power and went to the top of the elevator, where he found him lying on the belt. Death ensued before the arrival of the physician.

Decatur, Ill.—J. C. Hight, manager of the Hight Elevator Co., is reported to have been arrested recently on a charge of violating a city nuisance ordinance. He pleaded not guilty to the charge and was released on \$100 bond. Failure of the elevator company to heed warnings of health officials concerning control of dust and grain chaff brot the action, it was said. Residents of the neighborhood are reported to have complained numerous times about the dust from the elevator. For the alleged violation of the ordinance Mr. Hight will be subject to a fine of not less than \$10 and not more than \$50.

Springfield, Ill.—Senate Bill No. 15 introduced by Louis O. Williams, of Clinton, has been passed to the governor for signature. It amends the warehouse act of 1871 to provide that the operator, whether he is proprietor, lessee or manager, of any public warehouse of class A or of class B may be licensed after filing a bond of 10 cents per bushel of storage capacity. Having been so licensed the operator may deal in grain in his elevator without being subjected to criminal prosecution, the bill repealing sections 5 and 6 of the Act of 1871. Under the bill the warehouseman will have the same privileges of dealing in grain possessed by warehousemen in competing markets. It is thought that since public warehousemen are under bond and warehouse's contents checked annually by the custodian department of the Chicago Board of Trade as well as having their receipts and shipments recorded by the state grain registrar the interests of the public are sufficiently protected. The Chicago warehousemen, by agreement with the Board of Trade, are now guaranteeing the condition of the grain in their houses and are no longer taking advantage of the state law permitting them to "post" grain going out of condition at the expense of the person who happens to hold the warehouse receipt.

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## CHICAGO NOTES

Frank E. Alstrin, a former director of the Chicago Board of Trade, has become identified with J. S. Bache & Co.

Board of Trade memberships are selling for \$5,500, net to the buyer, an advance of \$200 over the last previous transaction.

Oscar C. White, for many years a traveling representative of grain receiving firms of Chicago, died Feb. 27, aged 69 years.

F. Guy Sprague, grain broker, died in the Michael Reese Hospital after suffering a stroke, Feb. 26, at the age of 64 years. Burial was at Ft. Wayne, Ind., his former home.

Effective Mar. 2 Board of Trade quotations will be broadcast by station WJJD at 10:43 daily except 11 a. m. on Saturdays; WGN at 12:30 daily, and WLS at 2:53 p. m. daily, Chicago time.

Douglas Bagnell, for the last three years chief accountant for the Grain Futures Administration in Chicago, has been appointed to act in a similar capacity for the business conduct com'te of the Chicago Board of Trade.

Joseph F. Jackson, a member of the Board of Trade since 1905, formerly a broker on the floor and in recent years a commentator on market conditions, for three years past with the Norris Grain Co., died Mar. 5.

George D. Knab, for more than 40 years a member of the Chicago Board of Trade, died after a brief illness at the Majestic Hotel, where he lived, on Feb. 29, at the age of 84 years. Until two months ago he was active as a barley broker.

On charges of having violated rules of the exchange regarding "just and equitable principles of trade," Sim Fernandez & Co., of Springfield, Ill., was suspended from the Board of Trade for 30 days and the Fernandez Grain Co. was permanently denied privileges of the board.

Arthur W. Cutten is seriously ill of heart disease in his apartment at the Drake Hotel, this city. Last November Mr. Cutten, who is 65 years of age, had double pneumonia, but after a month's treatment at the Passavant Hospital, was able to return to his hotel to convalesce.

Christian Zeiss, oldest member of the Board of Trade in point of service, on Mar. 1 posted his membership for sale to Franklin Mayo, his retirement ending a career of more than 58 years on the board, which he joined in 1877, when he was 21 years of age. His retirement is due to an accident sustained about a month ago, when he fell on the ice near his home.

New members of the Board of Trade include: Winfield H. Emlet, John H. Matthes and Julian M. Marks. Memberships transferred: Ewing W. Brand, Estate of Gus K. Worms, Estate of Elmer M. Hodel, Estate of Edward H. Dare, Charles F. Leach, Addison Stillwell, Estate of Robert McClean, Ruby Schwartz, Francis J. Cuneo, Norris & Kenly admitted John E. McGovern to partnership.

The Wabash Railway has sold its Rialto Elevtr., sometimes called the Rialto-Wabash, at 104th St. and the Calumet River, to General Mills, Inc., for \$700,000 cash. The elevator has been operated under lease for a number of years by the Star Grain Co., the local grain division of Washburn-Crosby Co., Inc., of Chicago, a subsidiary of General Mills. The new owners will spend \$500,000 in repairs and improvements on the 2,500,000-bu. house, work to start at once, it is reported. The elevator was built 34 years ago.

A com'te of three directors, representing the Chicago Board of Trade, has lodged a protest before the Interstate Commerce Commission against the application of eastern standard time to the schedules of railroads which serve Chicago and the Central West. The com'te stated: "This protest is made on behalf of the millions of farmers and grain handlers and handlers of all farm produce thruout the entire Mid West agricultural section whose interests are all affected and who will all be inconvenienced by such change."

Altho official city time was advanced one hour Mar. 1 the directors of the Board of Trade voted Feb. 28 to continue trading hours on central time, thus keeping in step with the outside exchanges. Trading hours in cotton and securities will synchronize with those of the New York exchanges. A vote of members to make the change permanent will be taken Mar. 18. Axel C. Ahlman, acting chief grain inspector, promptly gave notice Feb. 29 that the state inspection office would operate on Chicago time except as to advice of time of inspection on the arrival notices, which will be governed by central standard time, the same as the Board of Trade.

## INDIANA

Laporte, Ind.—Notice of the final dissolution of the Farmers Elevtr. Co. has been published.

Albany, Ind.—An overheated stove in the elevator plant of L. B. Beach caused fire damage to the property on Feb. 20.

LaPaz, Ind.—Walter Fogel has been appointed manager of the LaPaz Elevtr. Co.'s elevator, succeeding Chet Hill.

Monroeville, Ind.—On Feb. 8 the Monroeville Equity Union Exchange sustained damage to its electrical equipment.

Chalmers, Ind.—M. M. North, a local man, is the new manager of the Chalmers Grain Co. He replaced Ed Shortz, who retired to his farm on Mar. 1.

Seymour, Ind.—On Feb. 25 a sprinkler in the plant of the Blish Milling Co. burst and saturated a carload of wheat in the wheat unloading dump.

Garrett, Ind.—Michigan-Indiana Fertilizer Feed Co., incorporated; to manufacture and deal in feeds and fertilizer; incorporators: D. E., Donald E. and Alice H. VanFleit.

LaFontaine, Ind.—The A. B. Martin Grain Co. is replacing its feed mill with a new Kelly Duplex Vertical Feed Mixer of one-ton capacity. The machine is motor driven and has floor level feed.

Wawaka, Ind.—Harry D. Frick has replaced his cracked corn machine with a new Kelly Duplex Corn Cutter and Grader. The machine is motor driven, and is of the high frame type for sacking direct from the machine.

Akron, Ind.—Haldeman-Baum Co. has just installed a new one-ton feed mixer and has bot a No. 3 Blue Streak Hammer Mill, now being installed. A corn sheller and cleaner will be the next improvement.

Logansport, Ind.—The driveways in both the north and the south elevators of the Logansport Elevtr. Co. will be strengthened soon to make them safe for the heaviest trucks. Also a hammer mill and motor to drive it will be installed at the south elevator to replace the present burr mill.

Rochester, Ind.—Wilson Coal & Feed Co. has added a 1½-ton Chevrolet Truck with tight grain box to its facilities. The addition gives the company a fleet of three trucks. The newest truck will be used mostly in long-distance hauling of grain, feed and fertilizer to meet the demands of local trade. In the spring a four-truck garage will be built to accommodate these transportation units. Last Labor Day the company bot the farmers elevator, which, with its previous elevator, gives it grain storage space for 20,000 bus.

Lafayette, Ind.—Grain men are urged to exert themselves toward having a large attendance at the grain grading school Mar. 18 and 19 conducted by Purdue University at the request of the grain dealers. The school is to be entirely practical in nature, the full time being devoted to laboratory work. Those in attendance will actually handle and grade the grain they study, rather than get the information purely by demonstration. This will be the first school to be held in the state where the grain men will have an opportunity to receive instruction in the commercial grading of soybeans. Grading of corn will be taken up the first day of the school and that night at the banquet, E. F. Johnson, widely known soybean expert from St. Louis, will be the speaker. Grading of wheat and oats will be taken up the morning of the 19th and the final afternoon will be devoted to soybeans. A registration fee of 50 cents will be charged. Rooms can be had near the University for 75c, two in a room, or \$1 for a single room. The hotels have rooms from \$1.50 up.

## IOWA

Adel, Ia.—Vern Danilson and Harold Evans, former owner of a grain elevator here, are associated in a new firm, the Ace Feed Co.

Hampton, Ia.—M. M. McNie, manager of the Farmers Elevtr. Co.'s elevator here, had a narrow escape from injury recently when an automobile he was riding in crashed with another car.—A. G. T.

Madrid, Ia.—A. E. Check has disposed of his interest in the grain firm of Lundahl & Check to his partner, C. W. Lundahl, who will continue the business.

Brunsville, Ia.—New elevator buckets and belt have been installed on the leg of the elevator of Herman J. Harms, who contemplates entering the mixed feed business.

Alta, Ia.—The Farmers Elevtr. & Supply Co. recently purchased a new fire safe for its records. Edgar Schuelke is manager of the elevator.—Art Torkelson, with Lamson Bros. & Co.

Dumont, Ia.—More than \$40 was taken from the office of the Farmers Grain Co. recently, entrance being gained by breaking a window while the office staff was at luncheon at noon.

Spencer, Ia.—M. E. DeWolf, whom those in the grain trade will remember as operator of the former DeWolf Grain Co., has cast his hat in the political ring for nomination as Congressman from this district.—A. G. T.

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Sioux City, Ia.—R. B. Harper, at one time in the grain business, operating thru the Sioux City Grain Exchange under the firm name of Harper & Murphy, has filed a petition of candidacy for the office of mayor of this city in the Mar. 17 primary election.—A.T.

River Sioux, Ia.—Chas. R. Persinger, Whiting, Ia., has succeeded R. R. Nikkleson as manager of the River Sioux Farmers Elevator Co.'s elevator. Mr. Nikkleson, who has been manager for the past five years, resigned to devote his time more exclusively to his farms.—Frank M. Ward, with Hart-Bartlett-Sturtevant Grain Co.

Hobarton (Algona p. o.), Ia.—Raymond L. Reid, manager of the elevator of the Farmers Elevator Co., had four fingers and a thumb frozen and narrowly escaped freezing to death when his car was stalled in a snow drift recently, when the thermometer stood at 30 below zero. Mr. Reid was unable to move when he was rescued.

Shenandoah, Ia.—Fred Ayers, an employee at the Johnson Bros. Feed Mill, was injured on Feb. 24, when several sacks of feed fell on him, throwing four vertebrae out of place. A few months ago Sam Whitehill was injured in a similar way and has only recently been able to get about again. Mr. Ayers' injury did not prove to be serious.

Waterloo, Ia.—The Soybean Processing Co. has been incorporated [as reported in the Journals last number]. Contracts for machinery and equipment will probably be let within the next 30 days. It is the intention to have a small plant in operation about the first of June and then to increase the capacity of the plant later on in the fall when the bean season comes on. The authorized capital of the company is \$100,000 and its stock has been fully subscribed by the seven directors.—C. E. Butler, pres., Soybean Processing Co.

## KANSAS

Cheney, Kan.—The Friesen Grain Co. sustained windstorm damage to its elevator Feb. 24.

Harper, Kan.—The Imperial Flour Mills Co. on Feb. 19 sustained slight damage to its electrical equipment.

Kingman, Kan.—The local plant of the Consolidated Flour Mills Co. was damaged by a severe wind Feb. 23.

Haggard, Kan.—On Feb. 18 the Farmers Co-op. Grain, Coal & Supply Co. sustained slight damage to its electrical equipment.

Wichita, Kan.—The new manager of the country elevators of the Red Star Milling Co., whose headquarters are in this city, is J. O. Kocher.

Kiowa, Kan.—Slight damage was done to the new office building of the State Line Milling Co. by fire recently, believed due to overheated pipes.

Sylvia, Kan.—The Midwest Grain Co. has sold its iron-clad warehouse here and will erect a new one. The old house will be used for automobile storage by the new owner.

Emporia, Kan.—Charles W. Lord, pres. of the Lord Grain Co., died of a heart attack on Mar. 1 at the wedding of his grandson, just as the wedding ceremony was being completed. He had not been ill.

Clyde, Kan.—Since the Union Pacific Railroad has junked and removed its tracks here (last fall), it will be necessary for me to rebuild the elevator which I have on the R. I. tracks. Will buy a truck lift and a new power plant, also remodel dumps, etc.—D. L. Anderson.

Kingman, Kan.—The Consolidated Flour Mills Co., of Wichita, has awarded contract to Chalmers & Borton for immediate construction of 100,000-bu. combined head house and storage unit here. This building will replace the fire loss which occurred in January, as reported in the Jan. 22 Journals.

Hutchinson, Kan.—The foundation and head house basement for the Farmers Commission Co.'s new elevator is now complete, and forms are being set in place. The pouring of the walls will be started in a short time and work will be carried to a rapid completion as the elevator must be completed by June 1. Considerable delay has been encountered on account of sub-zero weather. Chalmers & Borton hold the contract on this elevator, which when completed will have a capacity of nearly 1,000,000 bus.

Wichita, Kan.—Our reckless competitor up across the tracks has a lot of trucks and wagons coming and going, but he sure needs them to get rid of all the stuff he keeps around. We feel sorry for him, for if he makes any money we are apt to get inflation and the money won't be worth much anyway—so what's the use? The only thing we think has a good chance to go up is thermometers. They've been too low.—Discontented Twidler's Club, successors to Energetic Feed, Grain and Flour Merchants.

Atchison, Kan.—The Bailor Mfg. Co., of this city, and the Chemical Foundation, Inc., of Delaware, have entered into an arrangement, according to which the local company will install equipment for processing corn (and possibly other grains and potatoes) into anhydrous ethyl alcohol for use in motor cars, a by-product of the process being a stock feed. Plans call for the production of 3,500,000 gallons of alcohol annually, requiring about 1,500,000 bus. of grain, which will be secured in this territory. Production is scheduled to begin in about two months.

## KENTUCKY

Paducah, Ky.—The City of Paducah and the Pacific Steamship Lines have negotiations pending for the establishment of a \$1,000,000 elevator and cargo terminal here. The steamship company asks a 50-year lease, at \$1 a year, at the end of which time the elevator and terminal becomes the city's property.

## MICHIGAN

Riga, Mich.—The plant of the Blissfield Co-op. Co. recently sustained wind damage.

Reed City, Mich.—On Feb. 13 the Kent Elevator Co.'s elevator was damaged by fire of undetermined origin.

Elwell, Mich.—Peoples Elevator Co. is installing a floor scale, furnished by the Duplex Mill & Mfg. Co.

Zeeland, Mich.—Ver Hage Milling Co., incorporated; capital stock, \$50,000; incorporators: John Ver Hage and others.

Deford, Mich.—A severe windstorm on Feb. 4 damaged the Frutchey Bean Co.'s elevators at this point and at Millington, Mich.

Jackson, Mich.—O. T. Lande, manager of the Farmers Co-op. Ass'n's elevator, resigned recently and has been succeeded by Bernie Hanson, who takes charge Apr. 1.

Detroit, Mich.—Following the fire of Feb. 18, reported in the Journals last number, the Michigan Feed & Grain Co. immediately opened for business in a building it had previously occupied.

Detroit, Mich.—Following a major operation which he underwent several weeks ago, Searle Mowat, a director of the American Feed Mfrs. Ass'n and vice-pres. of the Larowe Milling Co., of this city, is recuperating in Florida.

Bad Axe, Mich.—Earl Dumaw, of Kinde, Mich., was fined \$109.10 including costs or sentenced to serve 90 days in the county jail, on Feb. 24, on the charge of stealing a quantity of grain from James Quinn. He must also pay \$400 to Quinn for the loss of his grain.

Coopersville, Mich.—John Meyers, of Alledale, and John Laug, of Coopersville, have purchased the Wolverine Grain & Milling Co. from the trustee in bankruptcy, and will conduct it under the name of the Coopersville Flour & Feed Mill Co. after repairs are completed.

Gaylord, Mich.—The Hankey Milling Co.'s elevator was damaged by fire at 7 a. m., Feb. 24; loss approximately \$10,000. Stock was practically ruined by smoke and water. Stored in the elevator were about 5,000 bus. of grain, five tons of seed, 1,500 barrels of flour and 8,000 bus. of potatoes.

Byron, Mich.—Fred E. Close, retired, who conducted an elevator business here for more than 35 years, died at his home, Hill Crest, on the south shore of Lobdell Lake, Feb. 14, at the age of 68 years. The elevator which he took over here as a young man, had been operated over a long period of years by his father, W. F. Close.

## MINNESOTA

Monticello, Minn.—A  $\frac{3}{4}$ -ton feed mixer has been installed by Herbert Lillja, who is operating the plant formerly occupied by the Farmers Supply Co.

Olivia, Minn.—The Osborne & McMillan Elevator Co.'s elevator, operated by C. G. and J. W. Ployhart, burned late in February; loss, estimated at approximately \$20,000.

Oklee, Minn.—Ice and snow on the railroad track caused the derailment of a box car recently, which damaged the coal sheds of the Farmers Co-op. Elevator Co. here.

### DULUTH LETTER

The linseed plant of the Spencer-Kellogg interest, unused for the past five years, is being dismantled and the machinery shipped to California, where the company is building a new plant to serve the Pacific Coast trade.—F.G.C.

The annual Board of Trade bonspiel was held Feb. 28, between the Bulls and Bears and resulted in the Bulls winning by one point, 28 to 27. Ten rinks competed for special prizes. Refreshments were served and a roaring good time enjoyed by all.—F.G.C.

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Twins, a boy and girl, were born to Mr. and Mrs. J. R. McCarthy, Feb. 27. Mr. McCarthy is connected with the Capitol Elvtr. Co. here. He was the recipient of many congratulatory telegrams from out of town friends and took the joshing of his fellow members in good spirit. Free coffee and doughnuts were on tap all day at the lunch room in the Board of Trade Bldg.—F.G.C.

We are indebted to Sec'y Charles F. MacDonald, of the Duluth Board of Trade, for the 1935 report of the board. Besides the list of members of the exchange (which is revised to Feb. 15, 1936) the book contains the usual valuable information regarding grain elevators at Duluth-Superior, receipts of grain during the last 54 years, receipts and shipments, by months, of the different grains for the last two years, commerce of Duluth-Superior Harbor, by commodities, etc.

#### MINNEAPOLIS LETTER

J. P. Finch, engaged in the wholesale feed business in this city, died in St. Barnabas Hospital, on Feb. 18, at the age of 59 years.

The Farmers National Grain Corp. has complained to the Chamber of Commerce of slow delivery of grain by the Van Dusen-Harrington Co., according to W. C. Engel, general manager.

At the monthly meeting of the Minneapolis Grain Shippers Ass'n, held on the evening of Mar. 3, Dr. E. C. Stakman, well known authority from the University, was the principal speaker, the subject of his address being "Recent Developments in Rust and Smuts."

Perry M. Ingold, of the Cereal Grading Co., well known on the floor of the exchange for the last 30 years, died from a throat infection, following a cold, on Feb. 27. Mr. Ingold was also well known in musical circles, having founded the Chamber of Commerce Glee Club, of which he was a director.

Death came to Cyrus E. Maney, one of the founders of the Maney Bros. Mill & Elvtr. Co. and its vice-pres., on Feb. 20, heart trouble being the cause. Mr. Maney, who was 76 years of age, retired from active participation in the business five years ago, but retained his interest. He had resided in Minneapolis since 1883.

#### MISSOURI

St. Louis, Mo.—While James E. Zednichek is away with his family on an extended trip, M. B. Grover, from the Minneapolis office, will have charge of the local office of the Cargill Grain Co. Mr. Zednichek's membership in the St. Louis Merchants Exchange has been transferred to Mr. Grover.

St. Louis, Mo.—Members of the St. Louis Merchants Exchange recently voted 72 to 32 in favor of sustaining the suspension of the call rule.

Kansas City, Mo.—Applicants for membership in the Board of Trade include W. Dart Smith, in charge of the Cargill Grain Co.'s local office, on transfer from J. B. Bracken, deceased.

St. Louis, Mo.—Members of the St. Louis Merchants Exchange attended a dinner meeting at the Statler Hotel, on Feb. 27, the purpose of the gathering being to further the interests of the exchange. E. C. Dreyer, C. B. Rader, Hugh B. McCormick, J. H. Caldwell, F. B. Chamberlain, J. O. Ballard and P. C. Knowlton, all members of the organization, addressed the gathering.

Westboro, Mo.—The elevator here, which has been closed since the death of the former manager, Will Sawyer, is open again. The board of directors, with Mrs. Flossie Sawyer as pres., has leased the business for two years to the Geiger Grain Co., of St. Joseph. Rudolph H. Beckman will be grain buyer here. Mr. Beckman has moved his family to this point from Lincoln, Neb.

Hamilton, Mo.—Some one entered the Farmers Produce & Grain Co.'s building on a recent Sunday evening between 3:30 and 8 o'clock and attempted to rob the safe. They pounded off the combination and it appeared as if they had attempted to drill in without success, or else had been frightened away by the night watchman, who discovered the back door unbarred about 8 o'clock. The robbers did not get any money.—Farmers Produce & Grain Co.

#### MONTANA

Gildford, Mont.—The Greely Elvtr. Co. has purchased the local elevator of General Mills, Inc.

Geyser, Mont.—Edward Finn, 49 years of age, for several years manager of the Rocky Mountain Elvtr. Co.'s elevator here, died at the home of his brother in Billings, Mont., Feb. 24.

#### NEBRASKA

McCook, Neb.—Robert Puelz, of Danbury, has been appointed temporary manager of the local office of the Farmers National Grain Corp.

Wynot, Neb.—The St. Anthony & Dakota Elvtr. Co.'s elevator at this point, which was erected many years ago, will be dismantled as soon as weather permits. Contract for the wrecking has been given.

Goehner, Neb.—Walt Wincker, of Tamora, Neb., has purchased the Nye-Jenks Grain Co.'s elevator at this point.

Wisner, Neb.—The local elevator of the Moseman Lbr. Co. will soon undergo repairs in readiness for the coming season.

McLean, Neb.—Installation of a truck scale and a truck lift in the elevator of the J. F. Schomberg Lbr. Co. is contemplated.

Milligan, Neb.—Kassik Mill & Elvtr. Co. has recently installed a new Kelly Duplex Vertical Feed Mixer, with 5-h.p. motor drive. The machine has floor level feed.

Silver Creek, Neb.—The two elevators of the Farmers Elvtr. Co., having a total of 70,000 bus. capacity, will be thoroughly overhauled this spring and general repairs made.

Dixon, Neb.—James T. Saunders, local grain dealer and mayor, died Feb. 19, at the age of 52 years. He was manager of the Farmers Union Elvtr. Co. here for many years.

Chappell, Neb.—The Farmers Elvtr. Co. is installing a new Kelly Duplex Vertical Feed Mixer of one-ton capacity. The machine is motor driven, 5-h.p., and has floor level feed.

Lexington, Neb.—Marion Menke recently completed a modern farm elevator at his home near here. The ground space of the building is 28x40 feet and the elevator is equipped with automatic motors and grinder.

Arlington, Neb.—E. W. Taylor, of Omaha, has bot the Nye & Jenks Grain Co.'s elevator and lumber business at this point, and appointed Homer McClellan, of Clearwater, Neb., manager, who will move his family to Arlington.—Art Torkelson, with Lamson Bros. & Co.

#### NEW MEXICO

Farley, N. M.—We have bot the elevator at Branson, Colo., built by Chapman & Bailey, taken it down and moved it to Farley. We are building it on to our plant here and putting in another cleaner for grain. It will give us plenty of room to handle all kinds of grain.—Ward Bean & Elvtr. Co., by Grace Ward.

#### NEW YORK

Buffalo, N. Y.—Lakeview Milling Co., incorporated; capital stock, 200 shares of no par value; incorporators: Thomas F. Myers, Thomas J. O'Donnell, Lorraine Subke.

Lake Grove, N. Y.—Harold W. Gould has recently installed a Kelly Duplex Vertical Feed Mixer with motor drive. The machine has a capacity of one ton and is equipped with floor level feed.

Glens Falls, N. Y.—Timothy J. McGillicuddy, aged 62 years, known to his friends as "Tim Mack," prominent grain merchant and civic and political leader, died at his home here, on Feb. 14, following a stroke of paralysis nearly a week before. With Patrick J. Kennedy, a cousin, he conducted the firm of Mack & Kennedy for 36 years.

Buffalo, N. Y.—An injunction restraining the state from enforcing the state unemployment insurance law has been applied for by an attorney representing the Associated Industries, Inc., whose membership includes many feed men and millers, and the application has been taken under advisement by a Supreme Court justice. The constitutionality of the law was challenged on the ground that it is "discriminatory and deprives the employer of property without due process of law."

#### NORTH DAKOTA

Chama (Sentinel Butte p. o.), N. D.—Jess De Clercq is now the agent for the Powers Elvtr. Co. at this point.

Grand Forks, N. D.—Headquarters of the Lytle Grain Co. have been moved to this city from Minneapolis, Minn.

Grand Forks, N. D.—Recent members of the North Dakota Farmers Grain Dealers Ass'n include the Equity Elvtr. & Trading Co., of Turtle Lake, N. D.

Backoo, N. D.—A blaze in the National-Atlas Elvtr. Co.'s elevator here last month was extinguished by the fire department before much damage was done.

## STRATTON GRAIN CO.

### GRAIN and FEED MILWAUKEE, WIS.

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Mohall, N. D.—Painful head and body injuries were suffered by James Butters, manager of the local National-Atlas Elvtr. Co.'s elevator when he was kicked by a horse recently.

Wellsburg, N. D.—In regard to our recent elevator damage, it was due to a Great Northern freight car being derailed on Jan. 29. It damaged the northeast corner of the elevator and about 600 bus. of flax ran out. The damage is estimated at about \$1,000.—Farmers Equity Elvtr. Co., A. M. Carlson, mgr.

Chama (Sentinel Butte p. o.), N. D.—E. E. Bell, former manager of the Powers Elvtr. Co.'s local elevator, has been sentenced to five years' imprisonment, having pleaded guilty to forgery charges. The Feb. 12 Journals reported him as awaiting extradition from California, where he was found, to this state. Bell attributed his downfall to drinking combined with marital troubles.

Hazleton, N. D.—The elevator of L. W. Berkholz burned at 4 a. m., Feb. 26, the fire starting in the feed grinding building next to the elevator. It is believed the elevator could have been saved if water had been available, but the village firemen were equipped with only chemical fire-fighting apparatus. Loss estimated at \$25,000. The elevator contained about 10,000 bus. of grain, half of which was wheat.

Fargo, N. D.—At the State Agricultural Experiment Station at the North Dakota Agricultural College here, the Federal Government will spend approximately \$7,000 this year on proposed solution of farm grain storage problems. It is proposed to construct eight 1,000-bu. bins, two of wood and six of metal, each to have different method of ventilation. A series of small bins for special studies will also be constructed.

The Northwest Crop Improvement Ass'n, the North Dakota Agricultural College and the Federal Grain Supervision office are sponsoring a series of meetings to be held in this state, beginning with Mar. 9, presenting exceptionally strong programs on shrivelled seed grain, plant disease control, grain grades, varieties and market demands. A special feature of each meeting will be the free seed examination service of samples of hard wheat and durum. The schedule is as follows: Mar. 9, Cathay and New Rockford; Mar. 10, Hamberg and Maddock; Mar. 11, Harvey; Mar. 12, Rugby; Mar. 13, Minot; Mar. 14, Leeds and Starkweather; Mar. 16, Edmore; Mar. 17, Brocket; Mar. 18, Michigan; Mar. 19, McVillie; Mar. 20, Larimore.

## OHIO

Oakwood, O.—A corn sheller was recently installed in the Carnahan Feed Store.

Rosewood, O.—The Clark Feed Mill recently installed complete feed mill equipment.

Jamestown, O.—D. A. Oliver, of the Oliver Grain Co., has installed a Sidney Mixer.

Ottawa, O.—Raabe Bros. sustained wind-storm damage to their elevator plant on Feb. 5.

Eldorado, O.—During a recent severe wind the elevator plant of A. W. S. Locke received some damage.

Dayton, O.—A one-ton feed mixer and a hammer mill have been added to the equipment of the Dwyer Mills.

Bellevue, O.—The new 7,000-bu. elevator of the Logan County Farm Buro, which was begun last October, started operation last month. The Sidney Grain Mch. Co. had the contract.

Waverly O.—Scioto Valley Grain Co., incorporated; capital stock, \$5,000; incorporators: Corbett, Blanche and C. E. Haynes.

Findlay, O.—Hancock County Farm Bureau has recently installed a Kelly Duplex Ear Corn Crusher and Feeder ahead of its mill.

Spring Valley, O.—J. E. Carnahan, manager of the Spring Valley Grain Co.'s elevator, recently installed a Sidney Special Feed Mixer.

London, O.—J. A. Long, elevator and mill operator here, is a candidate for nomination as treasurer of Madison County on the Republican ticket.

Lebanon, O.—Lewis & Drake, Inc., are contemplating the installation of a feed mixer, corn sheller and corn cutting machine.—Lewis & Drake, Inc.

Kinsman, O.—Fire which originated in the top of the elevator building of the Kinsman Feed & Supply Co. destroyed the property on Feb. 29. Loss estimated at more than \$20,000.

Toledo, O.—S. L. Rice, pres. of the Toledo Board of Trade, has the sympathy of the trade in the recent loss of his wife, who died suddenly of heart disease at Palm Beach, Fla., where she was wintering with her husband and family.

Gibsonburg, O.—In Feb. 12 number appeared an erroneous item concerning re-organization of our concern. We were re-organized in 1926 and have no intention of doing so again.—Gibsonburg Elvtr. Co., Ed Tille, mgr.

Sardinia, O.—Philip M. Yockey has installed a new Kelly Duplex Corn Cutter and Grader in his feed mill here. The machine is motor driven and produces three grades of cracked corn, removes the meal, and cleans and polishes each grade.

Ney, O.—Charles B. Krohn, formerly of Deshler, O., where he managed the Deshler Farmers Elvtr. Co.'s elevator for 14 years, has been appointed manager of the Ney Co-op. Grain Co.'s elevator, succeeding Charles E. Doud, whose death was reported in the Journals last number.

Rochester, O.—The Rochester Farmers Elvtr. Co., which has been in receivership since November, 1932, was sold by court order, on Feb. 11, to Bert Ewell & Son, elevator operators at Brighton (Wellington p. o.), for \$1,400. The Ewells have been operating the elevator here just purchased, for some time.

Kansas, O.—The elevator here [formerly the Sneath-Cunningham Co.'s elevator] is now running under private ownership. It goes by the firm name of Kansas Grain & Supply Co. It is owned and operated by Charles Schuster, formerly connected with the Toledo branch of the Farmers National Grain Corp. It handles grain, feed, coal and complete farmers' supplies.—George Schuster.

## OKLAHOMA

Cache, Okla.—A pioneer feed dealer of this place, Daniel E. Paschall, who had resided here for over 30 years, died Feb. 14, following a heart attack.

Oklahoma City, Okla.—Friends of C. F. Prouty, sec'y of the Oklahoma Grain Dealers Ass'n, will be glad to learn that he is on the road to recovery from his recent attack of influenza with complications.

Stigler, Okla.—L. L. Cantrell's large grist mill burned early in the morning of Feb. 17, the fire having such headway before it was discovered that it was impossible to save anything. A small amount of insurance was carried.

Eldorado, Okla.—The Farmers Co-op. Ass'n, which operates an elevator here, has added farm machinery to its lines, which include also a wholesale and retail gasoline and oil station, a completely equipped machine shop, and two gins.

Frederick, Okla.—We wish to report that the E. O. Billingslea Grain Co. has not bot the Abercrombie-Calvert elevator at Frederick, Okla. We are now operating this elevator and will continue to operate it in the future, giving the same service to our customers as we have in the past. This elevator is one of the most modern ones of its type, having been thoroly reconditioned since we started operation. It is equipped with Richardson Automatic Scales and Fairbanks 20-ton wagon scales of the newest type, installed in 1931. The capacity of this elevator is 15,000 bus.—Cassidy Grain Co., W. E. Cassidy.

## PACIFIC NORTHWEST

Shelley, Ida.—On Feb. 16 the elevator property of N. S. Sage was destroyed by fire of undetermined origin.

Odessa, Wash.—The Big Bend warehouse of the Odessa Union Warehouse Co. at this point collapsed recently and sacked wheat was spread in all directions. Loss was estimated at \$3,000.

Tacoma, Wash.—The Waterside Milling Co. (subsidiary of Balfour, Guthrie & Co.) is rebuilding its plant that was badly damaged by fire and explosion in January, as previously reported in the Journals.

Portland, Ore.—The Triangle Milling Co.'s plant was damaged by fire to the extent of about \$400 early on Feb. 14. The blaze, which was extinguished by an automatic sprinkler system, started in a grain chute.

Payette, Ida.—The Payette Alfalfa Mills have been sold to Gus Davis, of Boise, and Ray McFarland, of Salt Lake City, who will operate the mills under the same corporation as heretofore. The new owners are cattle men who have large feeding lots here.

Creston, Wash.—Fire broke out in the Creston Co-op. Grain Co.'s wheat elevator and warehouse on Mar. 1. The plant was a complete loss according to Manager Charles A. Connor. It was valued at \$25,000. An estimated 40,000 bus. of wheat fed the flames. Company records were saved.—F.K.H.

Grass Valley, Ore.—A. A. Dunlop is the new manager of the Grass Valley Grain Growers, Inc. (affiliate of the Farmers National Warehouse Corp.), succeeding J. W. Shephard, who has gone to Lewiston, Ida. The Grass Valley Grain Growers are in the grain and feed business and also own an elevator at Kent, Ore.


Portland, Ore.—R. A. Needham and T. A. Brice, formerly sales manager and sec'y respectively, of the Sunset Feed Mills, have organized a new firm, the Northwestern Feed Co., which opened for business during the first week of March. The company will handle mixed dairy and poultry feed, grain and hay. A concrete building, 50x100 feet, has been leased.

Portland, Ore.—The Western Condensing Co. will erect a \$25,000 plant in this city, to supply the market for dried whey in the poultry industry of this section. The plant, which is the first of its kind in the Pacific Northwest, will be in operation by the middle of April. I. C. Roberts, engineer for the condensing company, will have charge of the work here. The Parker-Schram Co. has been awarded the contract for construction. The whey will be collected within a 50-mile radius of Portland by large tank trucks, and placed in large storage tanks, from which it will be drawn for the condensing process, which is done at temperatures low enough to retain the food value and vitamins.

## PENNSYLVANIA

Midvale, Pa.—Wilbur H. Stevenson's grain and feed elevator and warehouse burned at noon Feb. 20, the fire originating in a nearby garage; loss, \$15,000; partly insured. A carload of wheat, a carload of other grains and feed and half a carload of packing house material were destroyed.

Pittsburgh, Pa.—After an illness of several months, Chauncey J. Cleland, Sr., prominent feed merchant of this city, died at his home on Feb. 22, at the age of 67 years, unaware of the fact that his warehouse and store had burned a few days previously.



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Philadelphia, Pa.—While attending a business dinner dance on Feb. 15, Frank J. Montmore, feed broker, died from a heart attack. He established his own business as a feed broker in 1933, previous to which time he was a feed and flour salesman for James J. Rodgers.

## SOUTH DAKOTA

Bowdle, S. D.—An automatic wheat steamer was recently installed by the Bowdle Flour Mills.

Naples, S. D.—The office of the Farmers Elvtr. Co. was damaged by an overheated stove on Feb. 15.

Menno, S. D.—A. A. Wollman & Son expect to change their elevator drive from a gas engine to electric motor this spring.

Gettysburg, S. D.—The position of city auditor has been given to J. R. Rasmussen, manager of the Farmers Elvtr. Co.'s elevator here.

Iroquois, S. D.—We are still operating under the name of the Theophilus Grain & Coal Co. Since my father's death [reported in the Feb. 12 Journals] I have been acting as manager.—Francis Theophilus.

Faulkton, S. D.—The Farmers Elvtr. Co. has sold its elevator on the NorthWestern Railroad tracks to the Tri-State Milling Co., of Rapid City, N. D. The Farmers Co. has another elevator on the Milwaukee Railroad.

## SOUTHEAST

Remington, Va.—The Remington Milling Co.'s flour mill recently sustained fire damage.

Monroe, N. C.—The Henderson Roller Mills Co., Inc., sustained some wind damage on Jan. 19.

West Point, Va.—York Supply Co., incorporated; capital stock, maximum \$50,000; F. B. Corr, pres.; to deal in grain, feed and other farm supplies.

Martinsville, Va.—Aaron Mills are installing a new Kelly Duplex Vertical Feed Mixer with motor drive. The machine is of one-ton capacity, with floor level feed.

## TENNESSEE

Nashville, Tenn.—The Kittrell Grain & Feed Co.'s building was damaged by fire, which started on the second floor, during the third week of February; loss, principally to stock, \$10,000.

## TEXAS

Hereford, Tex.—Hereford Co-op. Elvtr., incorporated; capital stock, \$25,000; incorporators: C. R. Ragsdale, S. Spradling and A. L. Henderson.

Bonham, Tex.—The Planters Cotton Oil Mill here has been bot by the Kimbell Milling Co., of Ft. Worth, which will convert the plant into a grain handling and storage plant. It is reported that the local Chamber of Commerce is making an effort to have a flour mill erected here, the old one having been a long time out of use.

Clifton, Tex.—The Kimbell interests have erected four steel storage tanks, each having a capacity of 35,000 bus., a large warehouse, completed overhauling the mill here, acquired some time ago, added much new equipment and put the plant into operation last month, under the name of the Texas Milling Co. Buster Graves, formerly with the Kimbell Co. at Whitewright, Tex., is local manager. The mill has a capacity of 400 barrels of flour besides corn products.

Ft. Worth, Tex.—The Burrus Mill & Elvtr. Co. completed its new plant on the outskirts of this city, consisting of a 500,000-bu. elevator, a 3,000-barrel mill and an office building, on Feb. 14 and on the following day held open house, with appropriate ceremonies, barbecue lunch at noon, speaking and tours thru the plant. The ceremonies were broadcast over the radio. As previously reported, the new elevator was put into operation last summer and one unit of the mill last fall. The Jones-Hettelsater Const. Co. had the contract for the new plant.

Nacogdoches, Tex.—The capacity of the feed mill of the Texas Farm Products Co. has just been doubled by additions and improvements, including an outside elevator leg, having a capacity of 1,000 bus. per hour, a new 1,000-bu. cleaner, a concrete unloading chute, an oat crimping machine and a grain distributing system.

## UTAH

Lehi, Utah.—The Lehi Lily Cereal & Feed Mills have been taken over by Odell Peterson and Ralph Smith. After being idle for a long time, business was revived at the mill about a year ago, when T. H. Southworth and C. L. Johnson started operations. A few months ago Mr. Johnson sold his interest to Mr. Southworth, who has since operated the plant.

## WISCONSIN

Chippewa Falls, Wis.—Albert Zutter Elvtr. Co. has recently installed a Kelly Duplex Magnetic Separator ahead of its hammer mill.

Milwaukee, Wis.—A. A. Breed, chief grain inspector of the Milwaukee Grain and Stock Exchange, has been seriously ill at St. Joseph Hospital.

Cazenovia, Wis.—R. M. Long is installing a new Kelly Duplex Vertical Feed Mixer in his feed mill here. The machine has a capacity of one ton, and has floor level feed.

Neillsville, Wis.—Construction work has started on an addition to the S. H. VanGorden & Sons elevator, which will house the machinery of the new commercial fertilizer plant awaiting installation.

Dodgeville, Wis.—P. W. Hennessey & Sons, of Highland, have purchased the feed, flour and coal warehouse here from E. J. Wilson, who has operated it since 1928 but who is retiring, due to poor health. Pat Hennessey, Jr., will manage the warehouse.

Superior, Wis.—Prompt discovery by the watchman at the Globe Elvtr. of a fast spreading fire in one of the grain bins recently checked what promised to be a disastrous blaze. Defective wiring of an electric lamp socket which had been covered up by the grain was the cause of the blaze.—F.G.C.

Ripon, Wis.—The Badger Farmers Co-op. Elvtr. Co. plans to rebuild its elevator and mill burned last month, as reported in the last number of the Journals. Following the fire, offices were set up by the company in a small frame building adjoining the coal sheds that was the original office building of the company back in 1912. Arrangements were made at once for milling and handling of grain and feed.

Milwaukee, Wis.—Construction of a new grain elevator costing \$350,000 will be started soon by the Froedtert Grain & Malting Co. The new elevator will have a capacity of 1,500,000 bus. and will give the firm a total storage capacity of 3,750,000 bus. It will provide facilities needed to take advantage of heavy movements of barley. The project calls for the erection of 70 tanks, each 130 feet high, of reinforced concrete. Cleaning machinery will be installed. Less than two years ago, the Froedtert firm completed a new malt house at a cost of \$900,000.

## Cost of Argentine Elevators

Dr. Carcano, Argentine minister of agriculture, delivered an address at Rosario recently, devoted to the new elevator system.

He said the construction would be spread over 1936 to 1939 inclusive and the bids for construction of the terminals would be opened in February. He said the group of terminals will mean an outlay of some \$55,000,000, of which \$37,000,000 will go to construction and \$18,000,000 for machinery and equipment.

Out of the \$38,000,000 to be spent upon the camp elevators, 75 per cent represents the value of the constructions and the remaining 25 per cent the cost of the machinery; while of the \$28,000,000 to be spent upon labor and most of the material for the first group, \$20,000,000 will remain in the country, as well as about \$10,000,000 worth of machinery to be made here.

In all, therefore, he said, over \$70,000,000 of the money to be spent upon this vast system will remain in the country.

## Receiving Books For Grain Buyers

**Wagon Loads Received.** A good form used extensively in recording wagon loads of grain received from farmers. Tare weight is entered immediately under gross to facilitate subtraction. Contains 200 pages of linen ledger paper, and is ruled 20 lines to a page, thus accommodating 4,000 wagon loads. Separate pages may be devoted to each kind of grain to each farmer, or wagon loads may be entered in the order received. Well bound in cloth, with keratol back and corners. Order Form 380. Price \$2.50. Weight 2½ lbs.

**Receiving and Stock Book for keeping a record of each kind of grain received in separate columns, so buyer may easily determine total amount of any kind of grain on hand.** Size 9½x11½, 200 pages, with a capacity for 4000 wagon loads. Well printed on linen ledger paper, bound in strong board with leather back and corners. Order Form 321. Price \$2.50. Weight 2½ lbs.

**Scale Ticket Copying Book** contains 150 leaves of scale tickets, four to a leaf. Each leaf folds back upon itself, so that with the use of carbon paper, it will make a complete copy of the original on the stub, with one writing. Original tickets forming the outer half of leaf are machine perforated. Printed on bond paper, check bound, size 9½x11, supplied with four sheets of carbon. Order Form 73. Price, \$1.30. Weight 2 lbs.

**Grain Scale Book,** a combined Journal and Receiving book with index. Each man's grain is entered on his own page, or a page may be allotted to each kind of grain received. Both debits and credits are posted to the ledger. Contains 252 numbered pages and index, size 10½x16½, and will accommodate 10,332 wagon loads. Printed on linen ledger, bound in extra heavy black cloth covers, with leather back and corners. Order Form 23. Price \$4.00. Weight 5 lbs.

**Grain Receiving Register** is designed for recording the receipts of wagon loads of grain. Loads may be entered in consecutive order, or different sections of the book may be devoted to different kinds of grain. Book contains 200 pages of linen ledger paper, size 8½x14 inches, each of which is ruled for 41 entries, giving a total capacity of 3200 wagon loads. Well printed and substantially bound in full canvas. Order Form 12AA. Price \$2.50. Weight 3 lbs.

**Duplicating Wagon Load Receiving Book,** designed to facilitate the recording of number of loads from one farmer in a short time. Book contains 225 leaves, size 12x12 inches with 83 lines each, perforated down the middle; the inside half of the leaf remains in the book, and the outer half with the same ruling printed on the reverse side, folds back over the left half with carbon between. Outer half is given to farmer. It may also be used by line agents in making daily reports to headquarters. Check bound with canvas back, nine sheets of carbon. Order Form 66. Price \$2.00. Weight 4½ lbs.

**Grain Receiving Ledger,** may be used first as a Stock Book by posting the receipts daily, weekly or monthly from some other portion of this book, or from any other scale book, giving a page to the commodity handled; Second, as a patrons' ledger, by giving a full or half page to each patron; Third, pages may be used to enter each load of grain received in consecutive order under their respective commodity headings. The book contains 200 numbered pages with 44 lines each, and marginal index in front, size 8½x13½, ruled with the usual column headings, including Debit and Credit columns. Printed on linen ledger paper and well bound in black cloth sides with keratol back and corners. Order Form 43. Price \$3.00. Weight 2½ lbs.

Form 43XX contains 400 pages same as above. Price \$5.00. Weight 4½ lbs.

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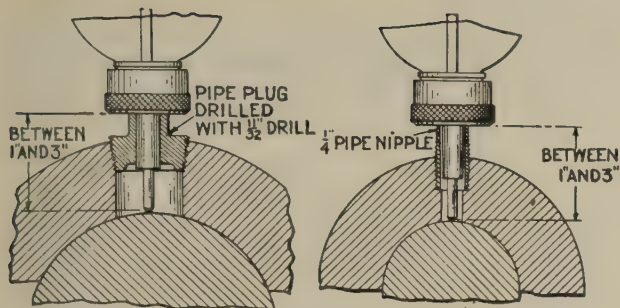


Fig. 8. Methods of installing bottle oilers.

### Bottle Oilers

Some operators prefer oil to grease as a lubricant for most shaft bearings. Probably the best application of oil to shaft bearings is obtained by some permanent automatic device such as a Bottle Oiler. The construction and principles of operation of such a device, together with illustrations, are given below.

A Bottle Oiler consists of three essential parts: a glass container or bottle, a tight-fitting cap, and a spindle. See Fig. 6.

The four-ounce bottle or glass container (A) has a short neck fitted with a threaded ferrule on which the cap can be screwed.

The cap (B), threaded to fit the ferrule, has a cork washer, making a tight joint on the neck of the bottle. The cap has a projecting sleeve, drilled to permit free movement of the spindle.

The spindle (C), about 0.187" in diameter, is a straight piece of round steel or brass with one end flattened. The flattened end is placed inside the bottle to prevent the spindle from dropping out.

The principal dimensions of the Bottle Oiler are given in Fig. 7, which shows the parts assembled.

In use the Bottle Oiler is placed in an inverted position, with the cap down, and so supported from the bearing cap that the end of the spindle rests on the journal or shaft.

Since the Bottle Oiler is inverted and air tight except for the spindle clearance, oil cannot leak out unless air enters.

When the shaft is stationary, no air enters the bottle, and no oil is lost. When the shaft or journal is in operation, the spindle of the Bottle Oiler is given a motion so slight that it can scarcely be detected. This motion is sufficient, however, to result in a pumping action which causes air to enter and oil to leave the bottle at a very slow but uniform rate through the small clearance space between the spindle and its sleeve.

Oil flowing down the spindle to the journal is distributed to the bearing surfaces, builds up the oil film that supports the shaft, and permits free motion with minimum friction.

When the temperature of a bottle oiler rises, the resulting expansion of the air in the bottle expels some oil. When the temperature falls, the contraction causes air to enter the bottle.

The Bottle Oiler is adapted pre-eminently to the application of high grade oils, since the full value and economy of such oils can be most fully demonstrated when they are applied at a uniform, slow rate of feed—in the quantity required by the bearings—and only during the period when the shaft is turning. These Bottle Oilers may be easily installed as shown in Fig. 8.

When a hole in the bearing cap is not too large, a 1/4" pipe nipple is fitted into the bearing cap, as shown. The inside diameter of 1/4" standard pipe is of the correct size to receive the sleeve of the Bottle Oiler readily. The height of the top of the nipple above the journal should not be less than 1" or more than 3". If less than 1" the sleeve might touch the shaft, and if more than 3" the spindle will not reach the shaft. In either of these cases the Bottle Oiler would not operate. The end of the spindle must rest on the journal, but the end of the sleeves must not touch the journal.

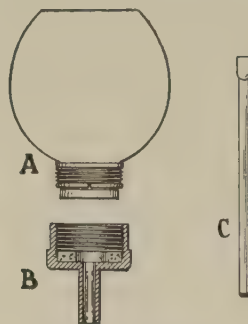


Fig. 6. The parts of the bottle oiler.

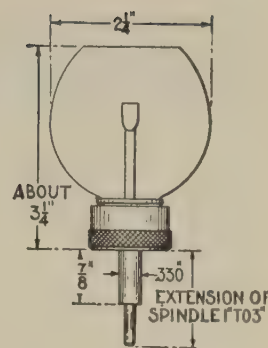


Fig. 7. Assembled bottle oiler, with dimensions.

Bottle oilers may also be used successfully on ring or chain oiling bearings, particularly those on electric motors. Such bearings operate most efficiently when the oil level remains constant. An easy method of applying the bottle oilers to such bearings is illustrated in Fig. 9.

### Argentine Grain Storage

Government intervention in the grain trade is becoming a fascinating and profitable source of revenue. We have for some time been persuaded that the long-delayed participation by the ruling powers of the Argentine in matters agricultural would end abruptly in some comprehensive scheme designed to put the whole industry in order—or bondage. A scheme drawn up by the National Committee on Elevators entails the construction of a chain of grain elevators thruout the country. The amount which it is proposed to spend must not exceed—politically speaking—64,854,000 paper pesos. Over and above this, the Ministry of Agriculture is authorized to negotiate for the expropriation of the Rosario F.C.C.A. Terminal, which has a capacity of 80,000 tons, and is now owned by the Corporacion Americana de Fomento Rural; also to call for public bids covering the construction of the first series of one hundred portable elevators for receiving and discharging grain in bulk.—*The Miller, London.*

Steamer *Nicolas Angelos*, a Greek ship, was fined the maximum amount of £100 with £20 costs, for evading British grain-carrying regulations in transporting 6,800 tons of maize—2,000 tons in bulk in the 'tween decks, 4,760 tons in the holds, and only 40 tons in bags, from the Black Sea to Birkenhead, England.

A survey of the dust storm area in the Southwest will be made by the resettlement administration of Rexford Guy Tugwell, with a view to changing the methods of farming in that area. Six land use projects have been undertaken by the resettlement administration in the southwestern plains area. They involve the purchase of approximately 415,000 acres of dry farm land that will be restored to controlled grazing. In Morton County, Kansas, the administration plans to purchase 48,000 acres at a cost of \$254,000.

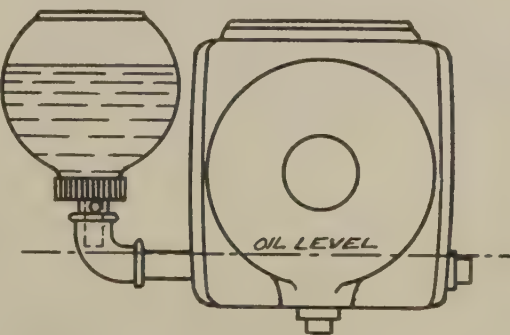


Fig. 9. Note that bottle stem fits loosely in the pipe nipple and vent holes are provided near the upper end of the nipple.

Professor Hinrichs of Purdue University, making a detailed study of Indiana grain elevators, reached the conclusion that the success of a country elevator is more dependent upon the solving of internal problems than upon the solving of external problems.



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Every Container Bears This Signature

*W. V. Kidder*  
Founder



## Supply Trade

**Minneapolis, Minn.**—R. J. S. Carter, formerly pres. of Carter-Mayhew Mfg. Co., has formed a connection with the Forster Mfg. Co., and will maintain an office in this city.

**Chicago, Ill.**—Edwards Milk Products Co. has moved its offices to Room 1435, 166 W. Jackson Blvd. The company has also opened an engineering department in charge of P. F. McAllister, widely known grain elevator engineer.

**Hutchinson, Kan.**—John T. Borton of Chalmers & Borton, who has been confined to his home on account of illness for the past thirty days is now up and about, and expects to be at his regular duties within a short time.

Advertising is simply creating buying habits. That is why it is certain to be a paying investment if done right and continued long enough to do its work thoroughly. Everybody knows how hard a habit grips. —E. Lee Mahin.

**Minneapolis, Minn.**—Last summer we had 41 crews busy repairing, improving and building new elevators in the Northwest and we had to turn down a great deal of work. We are looking forward to a very busy season between now and the movement of the new crop.—T. E. Ibberson Co.

It would be well if engineering were less generally thought of, and even defined, as the art of constructing. In a certain important sense it is rather the art of not constructing; or, to define it rudely but not inaptly, it is the art of doing that well with one dollar which any bungler can do with two after a fashion.—Arthur Mellen Wellington.

**Des Moines, Ia.**—At the company's annual election the following were elected as officers of the Globe Machinery & Supply Co.: F. W. Swanson, pres. and gen'l mgr.; H. A. Bruner, vice-pres. and treas.; F. S. Harshbarger, vice-pres. in charge of factory sales and F. W. Swanson, Jr., sec'y. Mr. Harshbarger will remain in Philadelphia in charge of sales.

Coincidentally with the rising curve of kilowatt-hour consumption, there was an increase in the industrial activity during 1935 which in turn stimulated the production of electrical industrial equipment. In previous

years, a large percentage of such equipment had been devoted to the modernization of existing manufacturing plants, but during 1935 there was in addition to such modernization a considerable volume of apparatus produced for plant extensions and for the equipment of entirely new plants.

## From Abroad

To force use of surplus wheat stocks as feed Spain has prohibited importation of dried beans, coconut and peanut cake, soybean meal and cassava roots.

Wheat sowings in the Punjab, India, for the 1936-37 crop are placed at 10,236,000 acres in the second official estimate, against last season's final of 10,483,000 acres.

China's 1935-36 rice crop is estimated at 41,500,000 short tons of cleaned rice, compared with 36,400,000 tons in 1934-35 and with an average crop of 43,000,000 short tons, according to Assistant Agricultural Commissioner F. J. Rossiter in Shanghai.

Argentina's corn acreage this season, 18,854,000, breaks all records. Last year's crop of 451,943,000 bus., from 17,368,000 acres, was the largest on record. Condition of the new crop is good. The acreage increase is stimulated by the government price guaranty. Domestic consumption is only 95,000,000. Last year's exportable surplus was 351,213,000 bus.

Flaxseed exports from China are expected to increase due to improvement in railway transportation, according to Agricultural Commissioner, O. L. Dawson in Shanghai. It is estimated that approximately 2,000,000 bus. may be exported during the 1935-36 crop year beginning Nov. 1, 1935, compared with small exports in 1934-35 and around 821,000 bus. in 1933-34. The crop is grown mainly in the Provinces of Chahar and Suiyuan which this year expect a good harvest.

By cracking down on well established stock raisers in the regions best adapted to that form of agriculture the animal industry of the country is being driven into new hands and into less suitable areas to the discomfiture and financial disadvantage of the corn belt farmers and western ranchers. The A.A.A. has tried to move all the national furniture around except the hornets' nests.—Farmers Independence Council of America.

## New Line of Worm Gear Reducers

Announcement is made by Link-Belt Co. that it has developed and is now in production on a new line of cut-tooth Worm Gear Speed Reducers of simple, compact, accessible construction, offering great flexibility of driving arrangement.

The new reducers are available in a wide range of ratios and capacities, with single or double reduction, and in horizontal and vertical types; all provided with precision tapered roller bearings and automatic lubrication within dust-proof gray iron housings.

The output shaft with its chilled phosphor bronze worm wheel can be located above or below the worm shaft, which is made of a low-carbon alloy-steel forging, carburized and heat-treated after the worm threads have been cut thereon. A feature of the double-reduction reducer is the unitized attachment of primary reduction unit to the side of final-reduction housing.

Conforming with the recently recommended practice of the American Gear Manufacturers Asso., the name plate of each Link-Belt worm reducer is stamped to indicate the ratio, input and output R.P.M., the input horse power or output torque capacity, and the service factor used in determining the rating for which the unit has been sold.

## Grain Contracts with Farmers

Form 10 D. C. is recognized as the best for contracting grain and seed from farmers, and is in extensive use by grain dealers. Do not take chances with verbal contracts. They lead to misunderstandings, differences and disputes, as well as loss of profits and customers. Contract certifies that farmer:

"has sold.....bushels of.....at..... cents per bushel, to grade No....., to be delivered at.....on or before....." It also certifies that, "if inferior grain is delivered, the market difference at which such grain is selling on day of delivery shall be deducted. Any extension of time at buyer's option."

Originals are printed on bond paper, machine perforated so they may be easily removed; duplicates are of manila. All have spaces ruled on the back for recording each load delivered on the contract. Check bound, size 5½x8½ inches, 100 sets numbered in duplicate and supplied with 4 sheets of carbon paper. Order Form 10 DC Improved. Price \$1.10, f. o. b. Chicago. Wt. 1 lb.

Triplicating book is same as 10 DC and contains 100 additional copies of the contract printed on strong tissue and 4 sheets of dual faced carbon. Order Form 10 TC. Price \$1.35, f. o. b. Chicago. Weight, 21 ozs.

## Grain & Feed Journals

Consolidated

332 So. La Salle St. Chicago, Ill.

## Shippers' Certificate of Weight

for use in advising receivers of the amount and grade of grain loaded into a car. Especially adapted for filing claims for Loss of Weight in Transit. Each certificate gives: "Kind of scale used; Station; Car Number and Initials; Shipper's Name;—lbs. equal to—bus. of No. —; Date scales were tested and by whom; car thoroughly examined and found to be in good condition and properly sealed when delivered to the ————R. R. Co.; Seal Record, name and number, sides and ends; marked capacity of car; date; name of the weigher." On back is a form for recording the weight of each draught.

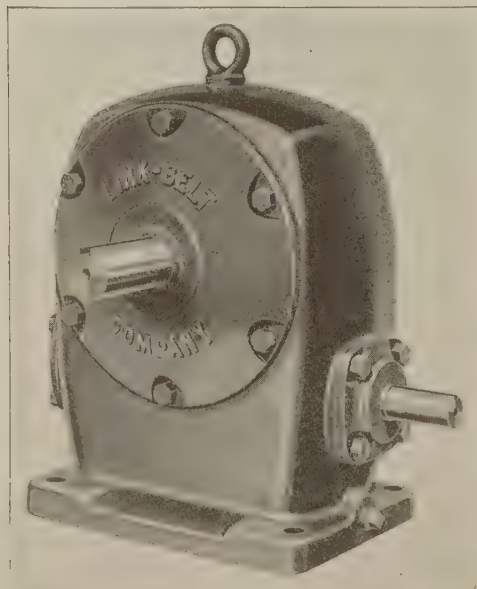
Printed and numbered in duplicate. Originals on Goldenrod Bond; duplicates on tough pink manila in two colors of ink. Well bound with heavy hinged pressboard covers. 75 originals, 75 duplicates and four sheets of carbon paper. Size 4½x4¾ inches. Weight 11 ozs.

Order No. 89 SWC.  
Price \$1.00, plus postage

## Grain & Feed Journals

CONSOLIDATED

332 So. La Salle St., Chicago



A New Speed Reducer



## Grain Carriers

A bill has been introduced in the New York legislature providing for tolls on the barge canal.

**Buffalo, N. Y.**—More than one-half of the 74 boats holding grain in winter storage here have been unloaded.

**Abandonment of the St. Benedict to Algonia, Ia.**, segment of the M. & St. L., has been authorized. The segment is 8½ miles long.

**Abandonment of unprofitable branch lines** by the railways of the United States totaled 1,843 miles in 1935, compared with 1,995 miles in 1934 and 1,876 in 1933.

**A lease of the barges of the Inland Waterways Corporation to private operators** was considered at a recent meeting of the advisory board. Gen. T. Q. Ashburn announced that a bona fide leasing offer was in prospect.

**Brownsville, Tex.**—This city at the southern tip of the state of Texas and the commercial outlet of the Rio Grande River valley now is a seaport known as Port Isabel, since the completion of dredging a ship channel for 17 miles from Brownsville to the sea. The depth is 26 ft.

**The South Texas Motor Transportation Ass'n and other truck owner organizations** will formally protest action of the Texas Railroad Commission prohibiting common carrier trucks from performing a pick-up and delivery service for farmers and carrying letters to city merchants and tradesmen.

**Elimination of the emergency freight charge on flaxseed** is urged upon the Interstate Commerce Commission by the Minneapolis Traffic Ass'n which has petitioned for a hearing. Flaxseed rates are 120 per cent higher than grain rates, and the shipper pays freight on the excessive dockage usually loaded with flaxseed.

**The Pennsylvania Transfer Co., Pittsburgh**, part of a group of companies controlled by the Pennsylvania Railroad, has applied to the I.C.C. for authority to acquire control of Barker Motor Freight, Inc., thru ownership of all outstanding capital stock. Application has also been made to similarly acquire control of the Alko Express Lines, a Pennsylvania trucking company.

**Freight cars ordered by the railroads during January and February** totaled 8,286, against only 830 during the like months a year ago. Traffic has increased, and the railroads have been able to meet the cost by the increase in net revenue earned thru the seven months, August to February, inclusive. Locomotives ordered during the two months number 60, against only 83 during the whole of 1935.

**Railroad Coordinator Joseph B. Eastman** lined up as a vigorous opponent of the Pettengill Bill, H. R. 3263, at hearings begun Feb. 26, by the House Com'te. The bill seeks to eliminate the long-and-short haul clause from the fourth section of the Interstate Commerce Act. Representative Pettengill commented that Coordinator Eastman is an advocate of government ownership of the rail lines.

**In 1916** the operating expenses and taxes of the railways consumed only 71 per cent of their gross earnings. The Adamson Act requiring the same wage to be paid in train service for eight hours' work as previously had been paid for ten hours increased operating expenses; but even in 1917, the year before government operation was adopted, expenses and taxes consumed only 76.7 per cent of gross earnings. In 1918 and 1919, under government operation, the percentages increased to 86.9 and 91.2. In 1920, the first year after the railways were returned to private operation, it was 99.7, and in 1921 was still 89.1. As soon as the depres-

sion began, the ratio of operating expenses and taxes to gross earnings commenced increasing, in spite of the most terrific retrenchments in expenses ever made. It was 83.5 in 1930; 87.5 in 1931; 89.6 in 1932; 84.7 in 1933; 85.9 in 1934 and 85.6 in 1935—an average for the six depression years of 86.1 per cent.—*Railway Age*.

**Shippers vision a late opening of navigation** with the continued cold weather and heavy ice. They say there is very slight prospect of an early break up of ice locally and at the Soo. Mild weather may speed up the opening, but with the present thick ice in the harbor and large fields covering Lake Superior for thirty miles out it will require warm weather to allow vessel movement. Generally the season opens about April 20, but this year it may be early May before the shipping season starts.—*I.C.*

**The decision of the Interstate Commerce Commission in reaffirmation of the lake and rail rate case**, giving Duluth a higher rate than Chicago was a matter of favoritism and not justified according to Fred S. Keiser, traffic commissioner of the Duluth Chamber of Commerce. Their action he stated makes it imperative that no authority in water rate matters be given the Commission. Every case where the decision has been a matter of rail versus water for their determination the Commission has favored the higher type of transportation, he explained. With this fact in mind he explained that every effort should be made to combat the existing Eastman bill which would yield the Commission greater authority in water rate cases.—*F.C.*

## Minneapolis Mill Rate Relief

Southwestern wheat and milling interests testified in the concluding days of the hearings on I. & S. 4134, wheat products, Minneapolis to Chicago, contending that whatever reduction the Commission might see fit to allow should be reflected in similar reductions in wheat products rates out of the Missouri River markets.

Transportation Commissioner W. R. Scott, Kansas City Board of Trade, objected to the Duluth request for transit at Minneapolis only so far as it violated the rate break principle laid down in Docket 17000, part 7. If the Commission intends to make adjustments with terminal markets in view, he said, it would be logical to abandon the rate break principle and build a system of thru rates on "a mileage basis." The present system of proportionals under the rate break system protects the producer and interior markets.

## Farmers Lose by Crop Reduction

In a report on the cotton reduction program of the A.A.A. the government bureau of agricultural economics said:

"Altho the prices received in 1934 with the adjustment program were about 3.6 cents per pound higher than the estimated price that might have been received without the program, this difference was not enough to offset the

smaller quantity of cotton available for sale, so that the estimated gross returns from cotton and cottonseed were less with the program than they would have been without the program."

This finding of fact proved distasteful to the A.A.A. and the paragraph was cut out of the report given to the public Feb. 4.

## Decisions and New Complaints

Before the Interstate Commerce Commission: **Ex Parte No. 96**, thru routes and joint rates between Inland Waterways Corp. and other common carriers. Effective date of order of May 4, 1933, as amended postponed until Sept. 3, 1936.

**Division 2, I. C. C.**, dismissed No. 26963, Knauf & Lesch Co. vs. A. G. S. et al. when it found rates on Canada field peas, and prepared pigeon or poultry feed, l. c. 1., Chilton, Wis., to points in official and southern territories, not unreasonable.


**In No. 20251, J. Allen Smith & Co. vs. Southern Ry.**, et al. the commission found rates on grain and grain products from and beyond the Ohio and Mississippi river crossings to Knoxville, Tenn., reasonable, but prejudicial to Knoxville and preferential to Chattanooga. The undue prejudice was ordered removed by June 4.

**In Fourth supplemental report in docket 17,000, part 8, cottonseed**; its products and related articles, the Commission has modified its prior findings to permit revising of rates on vegetable cakes and meals, cottonseed, cottonseed hulls and analogous commodities thru-out the U. S. on a distance scale basis in lieu of group rates from southwestern points and south and from southeastern points to destinations in the southwest, north-central, west-central and Mountain-Pacific regions.

**No. 14149**, of western carriers, No. 14939, of southern carriers, by Division 2. Addition of switching charges at intermediate points to rates on carload traffic from and to points in western and southern territories are not violations of the long-and-short-haul provision of section 4, said the commission in Oklahoma Corporation Commission vs. A. & S., 148 I.C.C., 216: "The practice of absorbing switching charges on competitive traffic at more distant points and not on non-competitive traffic at stations intermediate thereto, which results in fourth section departures, is a general one from which much benefit and little complaint results."

**Examiner Horace W. Johnson** has proposed re-arrangement of sweet clover seed rates from points of production in the Northwest to destinations in western trunk line and official territories, Kentucky and Tennessee, in No. 25254, Chamber of Commerce of Fargo, N. D., et al. vs. A. C. & Y., et al. and cases joined therewith. Considering prior cases, Examiner Johnson said: "That the rates complained of from North Dakota, South Dakota, and Minnesota on interstate shipments to points in Minnesota, Iowa, Nebraska, Missouri, Kansas, Wisconsin, South Dakota, North Dakota, Illinois, and the upper peninsula of Michigan, were unreasonable to the extent that they exceeded contemporaneous class D rates; that rates complained of to destinations in lower Michigan, Indiana, Ohio, Pennsylvania, New York, New Jersey, Kentucky, Virginia, West Virginia, and Tennessee, were unreasonable to the extent that they exceeded rates based on class D rates to Chicago or Mississippi river crossings plus 32.5% of the corresponding first class beyond. To this extent the findings in docket No. 26004 are modified. Carload minimums, 40,000 lbs. Complainants suffering higher charges are entitled to reparations with interest."

**Wide fields of thick ice** promise to delay the opening of navigation of the great lakes this spring and give lake vessels an excuse for advancing rates.



**WORLD'S LARGEST ELEVATOR**

**13,000,000 BU.—ALBANY PORT DISTRICT COM., ALBANY, N. Y.**

Operated by  
**CARGILL GRAIN CO., MINNEAPOLIS, MINN.**

Equipped with **THE GRAIN DRIER WITHOUT A BOILER**  
That's a **Randolph**—operated by oil.

Manufactured by  
**O. W. RANDOLPH CO., TOLEDO, OHIO, U. S. A.**



# Field Seeds

**Newton, Ia.**—Frank Failor suffered small loss by fire in his seed store Feb. 26.

**Keokuk, Ia.**—Mrs. Kate L. Grams, owner of the Gate City Seed Co., died Feb. 23 of pneumonia.

**Fargo, N. D.**—Alfalfa seed valued at \$157.50 was stolen Feb. 12 from the warehouse of the Grimm Alfalfa Ass'n.

**Hawarden, Ia.**—We are going to handle millfeeds and flour in addition to our seed business.—Northwest Iowa Seed Co.

**Moorhead, Minn.**—A warehouse replacing the one burned is being erected by the Goldberg Seed & Feed Co., of Fargo, N. D.

**Indianapolis, Ind.**—The Warren Seed Co. has removed to new quarters in a reinforced concrete building with handsome tile interior walls.

**Columbia, S. C.**—The Williamson Seed Co. has been incorporated with \$5,000 capital stock by G. G. Williamson and John W. Kearns.

**Wilson, Miss.**—The Wilson Feed & Seed Co. has been incorporated with \$200,000 capital stock by W. F. Wilson and J. H. and J. E. Crain.

**Evansville, Wis.**—Carl F. Brunsell, aged 69, died Feb. 22. He was engaged in the seed and grain business as senior member of Brunsell & Fellows.

**Redmond, Ore.**—E. O. Adams has purchased a garage that he is remodeling into an up-to-date seed warehouse. He will add an annex to the brick building, which is 50x75 ft.

**Decatur, Ill.**—Scarcity of good quality seed corn seems to be the primary concern of farmers and frantic efforts are being made to locate good seed. Prices now asked are from six to ten dollars a bushel.—Baldwin Elvtr. Co.

**Brookings, S. D.**—Testing of seed corn for germination is particularly necessary this spring because of the severe cold that may have injured corn containing much moisture, says Dr. A. N. Hume, head of the state college agronomy department.

**Portland, Ore.**—Carl A. Plett, of Wood, Baxter & Co., and formerly with the Chas. H. Lilly Co. of Seattle, was drowned Feb. 22 while fishing south of Yachats when a huge wave swept him off the rock into the Pacific Ocean.

**Corvallis, Ore.**—The Oregon Seed Council was organized Feb. 28 by 60 growers and dealers meeting at the State College. Alex Cellars of McMinnville was elected temporary chairman, and E. R. Jackman, extension specialist at the College, temporary sec'y.

**Yakima, Wash.**—The Beard-Adams Seed Co. will succeed the Beard Seed Co., Harold Adams having purchased part of O. A. Beard's interest. Mr. Beard will continue active in the business. Mr. Adams was formerly, for 15 years, with the Chas. H. Lilly Co.

**Low temperatures** of the past several weeks have materially reduced the germinating power of much seed corn—even in ears that had been previously selected and stored, according to tests conducted in the seed laboratory at Iowa State College, says Dr. R. H. Porter, director.

**Portland, Ore.**—Close to 15,000 acres have been sown to the new Rex wheat in eastern Oregon and Washington this past fall. Rex is similar to Federation, but is winter-hardy and smut resistant. It is being recommended

to replace Hybrid 128, Albit and Federation for fall sowing.—F. K. H.

**Omaha, Neb.**—The Stafford Hardware & Implement Co., of Stafford, Kan., has brought suit against the Nebraska Seed Co. to recover \$25,950 damages growing out of a shipment of seed alleged to have been purchased as Atlas sorgho, but which federal officials pronounced hegari.

**Winchester, Ind.**—We are having the best demand for red clover seed this spring that we have had for several years, an indication that our farmers are going back to the old method of rotating crops and to some extent are putting aside the thought of renting all their land to the government.—Goodrich Bros. Co.

**Ames, Ia.**—Joe L. Robinson, sec'y of the Iowa Corn and Small Grain Growers Ass'n, recently announced the results of the 1935 Iowa corn yield test, in which 849 entries were made. The banner trophy went to the Pioneer Hi-Bred Seed Co., of Des Moines, for its Hi-Bred 315, grown in the north, central section.

**Dallas, Tex.**—Field seed shippers of the Southwest held a meeting at the Hotel Adolphus Feb. 27 with Roy A. Edwards, chairman of the farm seed group and J. George Mann, chairman of the traffic com'te of the American Seed Trade Ass'n, in an effort to obtain equitable carload rates on field seeds in the western territory.

**Ames, Ia.**—The germination of possible seed supplies of barley and wheat is running as low as 50 per cent in many cases, tests at the seed laboratory at Iowa State College show. Oats, however, are averaging higher than this in spite of the prevalence of lightweight kernels. R. H. Porter, director of the laboratory, has found in recent testing.

**Spokane, Wash.**—Whitman and Spokane Counties boast of having much of the state's 100 per cent increase in dry field pea acreage and production since 1932. Farmers of Eastern Washington have planted great quantities in wheat fallow and this state now ranks as the nation's leading field pea producer. Washington still ranks below Idaho as a producer of dry, edible peas—other than cowpeas.—F.K.H.

**Atchison, Kan.**—Ed F. Mangelsdorf & Bro., of St. Louis, Mo., have purchased the Mangelsdorf seed plant that was closed June 3, 1932. Since that time it was used for storage by the Blair Elvtr. Co. Last summer the F. A. Mangelsdorf Co. used it for cleaning blue grass seed. At the beginning of 1936 the St. Louis firm took a 6 months' lease of the property and placed August Mangelsdorf in charge. With the sale of the complete plant and machinery the St. Louis firm will place the plant in operation immediately.

**For permanent pastures** a mixture of grasses and legumes results in a more uniform stand or longer season, and higher production. In any mixture there are likely to be plants adapted to any soil condition in a pasture. Mixtures give a uniform seasonal production because different plants have differing periods of flush growth. A mixture of grasses and legumes provides a better balanced ration as legumes are richer in both protein and minerals. They also help keep up the nitrogen supply.

**Birmingham, Ala.**—A northern white oat, unadapted and inferior, was recently found offered for sale by the Alabama Department of Agriculture under a fancy-sounding name making them appear to be heavy yielders.

Orders were issued preventing sale of the so-called mammoth cluster oats, and R. J. Goode, state commissioner of agriculture, has issued a warning against buying farm weed seed with fancy-sounding names, and urging that a record be made of the purchase and analysis tag.—G. H. W.

**The work of developing** the versatile soybean plant to its full possibilities is only in its infancy, says W. J. Morse, and there is an almost unlimited field for the plant breeder in the development of varieties most suitable for the production of feed, food, and industrial products. Because increases in soybean acreage in the future will be largely for beans for commercial uses, the job of developing new varieties becomes more complex and requires more intensive study than in the past when plant breeders worked for varieties with high forage or seed yield.

**The same danger** of low germination, weak sprouts and low reserve food supply applies to many lots of barley this year. I am afraid that we have fallen into the mistake of saying shriveled seed wheat when in reality we meant to refer to all shriveled seed including barley, durum and oats. Seed barley, in areas where it was injured by disease and drought, should be selected for plumpness; it should be cleaned and graded heavily to remove thin, diseased kernels and, it should be treated with new improved ceresan.—H. R. Sumner, sec'y N-W Crop Improvement Ass'n.

**Washington, D. C.**—The supply of bluegrass seed is ample to increase greatly farm usage and there is enough red top seed to plant several times the usual acreage. The available supply of timothy seed is larger than ever before recorded. Fairly large surpluses, in excess of normal usage, are reported for orchard grass, rye grass, and meadow fescue. The supply of alfalfa seed is reported to be fairly large. The supply of red clover and alsike is below normal but seed of lespedeza, which has gained rapidly in parts of the Corn Belt including Indiana, is available in large quantities. The Sudan grass seed crop was the largest ever harvested.—J. F. Cox of AAA.

**Lafayette, Ind.**—Reports on germination tests of seed corn from counties in all parts of the state indicate that Indiana farmers face the worst seed corn situation since 1918, according to the agronomy department of Purdue University. From such widely scattered counties as DeKalb, Adams, Randolph, Allen, Shelby, Wayne, Dearborn and Union, county agents report that germination tests indicate a large part of crib selected seed is unfit for seed, and that germination on corn stored for seed is quite variable. In Morgan County, where four community testers have tested more than 15,000 ears, County Agent W. J. Record reports the average germination as ranging from 37.6 per cent to 76.7 per cent. Preliminary reports from other counties show a similar situation.

## Directory

### Grass and Field Seed Dealers

**CRAWFORDSVILLE, IND.**  
Crabbs, Reynolds, Taylor Co., clover, timothy.

**GREEN SPRINGS, OHIO**  
The O & M Seed Co., seed merchants.

**MILWAUKEE, WIS.**  
Kellogg Seed Co., field seed merchants.

**PAULDING, O.**  
Stoller's Seed House, wholesale field seeds.

**ST. LOUIS, MO.**  
Mangelsdorf & Bro., Ed. F., wholesale field seeds.

**SIoux CITY, IOWA**  
Sioux City Seed Co., seed merchants.



## Iowa Seed Corn Testing 60%

The seed corn racket is being pushed so persistently in Iowa, farmers are becoming panic stricken and buying any seed offered by irresponsible truckers. Grain dealers should warn their farmer patrons to buy nothing but tested seed. The unusual shortage of desirable seed is the result of a wet fall, an early freeze and low temperatures which prevented corn from drying properly. Excessive moisture also caused rot and deterioration. Tests of corn in 84 Iowa counties showed less than 60% germination.

## Seed Liens in Northwest

In Minnesota, suits to collect the landlord's share under government lien has been threatened, since in Minnesota the seed lien runs for one year only and if not collected within the year, must lapse.

North Dakota, South Dakota and Montana do not have the one year limitation on seed liens, and the government is NOT forced to collect its lien within one year. So this leaves the possibility of such action in Minnesota alone, it appears.—N-W. Country Elevator Ass'n.

## Shipped Misbranded Seed

Charged with the offense of selling misbranded seed oats, J. M. Currier of Ozark, said to be an agent of the Weinmann Milling Co., Little Rock, was fined \$10 and costs in a jury trial in Justice of the Peace L. S. Lewers' court at Alma, Ark., on Feb. 14. This was the first case ever to be tried under the Arkansas Pure Seed Law.

Currier received an order from an Alma merchant for 15 bags of Red Rust Proof oats. This was shipped by the Weinmann Milling Co. from Little Rock to Altus over the Missouri Pacific Railroad and was thence conveyed by truck to Alma and placed on sale by the merchant in his store. A deputy of the State Plant Board drew a sample and sent it to the Board's seed testing laboratory at Fayetteville. Examinations made there revealed the presence of approximately 60 Johnson grass seed per pound of seed oats, whereas the Weinmann Milling Co.'s tag, attached to each bag, failed to indicate the presence of this noxious weed. The Plant Board, after a private hearing on this and a number of similar cases, recommended prosecution.

**CRABBS REYNOLDS TAYLOR CO.**  
CRAWFORDSVILLE, IND.

**GRAIN**

**Clover and Timothy Seeds**  
GET IN TOUCH WITH US

**ED. F. MANGELSDORF & BRO.**

Buyers and sellers of  
Sweet Clover, Alfalfa, Lespedeza, Clovers, Timothy, Grasses, Fodder, Seeds, Sudan Grass, Soy Beans, Cow Peas  
St. Louis, Missouri

**FIELD SEEDS**

WRITE OR WIRE FOR PRICES

**SIoux CITY SEED CO.**

Truck Service from the following warehouses:

Sioux City	Iowa
Sioux Falls	So. Dak.
Norfolk	Nebr.
Carroll	Iowa
Billings	Mont.
Algona	Iowa
Fairmont	Minn.
Albert Lea	Minn.

Samples Furnished On Request

## Northwest Seed Supply

Unless prompt action is taken the supply of suitable grain for spring sowing in the Northwest will be even more limited and delinquency means that unfit grain as far as vigor and germination is concerned, will be the sole source of seed.

To relieve the situation more than 1,449,453 bus. of all grains have been shipped by the Federal Surplus Commodities Corporation. A breakdown of the 1,449,453 bus. of seed grain so far allocated, reveals that of that total 32,575 bus. are oats, 64,798 bus. barley, 82,350 bus. durum, and 1,269,730 bus. spring wheat. In the spring wheat varieties 618,400 bus. are Ceres, 648,055 are Marquis, and 3,275 are Reward.

Southern Minnesota requests are largely centered so far on malting barley seed grain; other sectors of the state are asking for seed oats, and in the western and northern portion of Minnesota, spring wheat and durum is sought. North Dakota has made good progress in obtaining seed and requests are centered on spring wheat. South Dakota is lacking the official encouragement that North Dakota has and in the former state northern counties are wanting durum. Very few requests so far have come from Montana for any type of seed grain.

## Care in Buying Seed from Truckers

The Arkansas Plant Board is getting after itinerant truckers who usually are careless of the quality of the seed they offer.

Paul H. Millar, the Board's chief inspector, has sent out a warning, as follows:

"The practice of buying seed from an unknown trucker is hazardous at best. If this is done, however, the merchant should at least take the precaution of requiring the trucker to give him a receipted bill of sale, showing the amount and kind of seed bought, the date of sale, the trucker's name, address, and truck license number, and the analysis of the seed (which should also be on a tag attached to each bag), something like this:

Sold to—John Smith, Smithville, Ark.: 5 Bags Korean lespezea seed, with analysis as follows: Grown in Tennessee, Purity—98%, Weed Seed—1%, Germination—90%. Tested Jan., 1936, noxious weed seed—None. Truck License No. Tenn. 195-598. Signed—Jim Jones, trucker, Jonesville, Tenn.

Then send at once to the Plant Board two or three ounces of the seed for testing, stating the circumstances of the sale. If the test shows that the trucker's analysis is incorrect, the trucker can be prosecuted.

Without such a bill of sale, the merchant himself is the only one who can be held responsible. If the trucker will not give such a statement, there is something wrong with the seed.

## Breeding New Rust Resistant Wheats

By A. D. JACKSON, Texas Exp. Sta.

Denton wheat has already been developed for the north Texas soft wheat sections and hard wheat strains suitable for the Panhandle are being developed. Rust resistant wheats suitable for South Texas are being sought. A spring wheat, Hope, developed by E. S. McFadden in South Dakota which is resistant to stem rust, was crossed with a Mediterranean strain of Texas wheat that is completely resistant to leaf rust. Segregates have already been found that are resistant to both rusts and make good yields in South Texas where ordinary wheats are a complete failure.

The excellent showing of these strains last season in Kansas and Nebraska led the USDA to assign Mr. McFadden to Texas to co-operate with the Texas Station in breeding new rust resistant wheats. The finding of this resistant wheat opens a vast empire of potential wheat land in South Texas now growing only prairie grass.

## Seed Movement in February

Receipts and shipments of seeds at the various markets during February, compared with February, 1935, in bushels, except where otherwise noted, were as follows:

	Receipts		Shipments	
	1936	1935	1936	1935
<b>FLAXSEED</b>				
Chicago	80,000	3,000	26,000	52,000
Duluth	13,275	458	....	7,688
Ft. William	4,676	2,660	....	1,206
Minneapolis	122,540	131,120	177,460	58,790
Portland, Ore.	21,025	85,397	....	....
Superior	1,445	....	7,857	7,867
<b>KAFIR AND MILO</b>				
Hutchinson	5,000	5,000	....	....
Ft. Worth	112,000	42,000	33,600	28,000
Kansas City	70,000	57,400	24,000	55,200
Wichita	20,800	6,500	16,900	1,300
<b>CANE SEED</b>				
Ft. Worth	25,000	8,000	....	....
Kansas City	8,400	22,400	....	9,600
Wichita	5,200	2,600	3,900	....
<b>CLOVER</b>				
Chicago, lbs.	1,050,000	947,000	429,000	318,000
Milwaukee	241,970	40,315	176,765	100,375
<b>TIMOTHY</b>				
Chicago, lbs.	468,000	133,000	516,000	51,000
Milwaukee, lbs.	340,350	41,000	38,070	56,845
<b>SOYBEANS</b>				
Chicago	161,000	125,000	149,000	171,000
Toledo	7,500	....	....	....
Indianapolis	10,000	....	10,000	....

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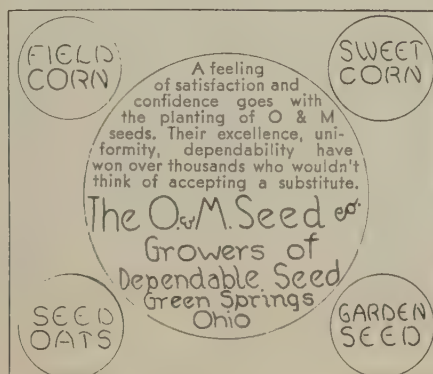
Checks seed rotting, improves stands, reduces disease losses

For less seed decay, better stands and bigger, high-quality yields of wheat, oats and barley, crop authorities now advise treating these seed grains with the *New Improved CERESAN*. Half an ounce treats one bushel of seed. Can be applied by gravity treater with no labor of turning, very little flying dust. Cereal Pamphlet and Blueprints for making

gravity treater from an old oil drum sent free. Bayer-Semesan Co., Inc., Wilmington, Delaware.



**New Improved  
CERESAN**





## Borer Resistant Seed Corn

By A. R. MARSTON, Michigan State College

The breeding of strains of corn which show a marked resistance to attack by the European corn borer has been a promising development in work conducted at the Michigan State College Corn Borer Sub-station near Monroe.

Maize Amargo, a low-yielding South American corn unsuited to Michigan but evincing distinct resistance to European corn borer attack, was crossed in 1926 with native Michigan corn varieties in an effort to secure productive and adapted strains of dent corn which would be characterized by this same resistance. That pure Maize Amargo still is resistant to the borer's ravages is indicated by its low infestation in recent years as compared to that of native Michigan varieties of dent corn.

In this work, in order to regain vigor which had been lost in the inbreeding process, such inbreds with Maize Amargo parentage which had shown highest borer resistance over several years were bred together to secure hybrid vigor.

The breeding of a superior variety of corn requires years of effort. Lines which in 1932 showed marked borer resistance and good yield are not yet perfected commercial corns. Further selection, perhaps back-crossing to the dent corns, will be necessary before satisfactory commercial corns resistant to the borer can be made available.

The Hybrid No. 561 is being liberated to the farmers of Michigan this year for the first time. Only a small amount of this seed is available, however, but what seed we do have will be available to our Michigan farmers. Michigan Hybrid No. 561 is a top cross between a synthetic variety, S-10, and an inbred. S-10 was made up by blending 91 inbreds. All of these inbreds and also the inbred used in top crossing S-10 have Maize-Amargo breeding and showed strong indica-

tions of being resistant to borer attack. S-10, the synthetic hybrid, likewise has shown, under trial, marked resistance to the borer. The purpose of the top-cross is to improve the vigor and quality of S-10 which, being a synthetic hybrid, has lacked uniformity since the first generation. The inbred used to sire S-10 in producing Hybrid No. 561, has shown distinct resistance to borer attack for several years. The Hybrid No. 561 is uniform, vigorous, and of the desirable dent type.

Hybrid No. 561 showed a very good yield in two over-state tests made in the southern part of Michigan last year, yielding some ten bushels more per acre than the recommended commercial variety for that area. We had counts made in the field where the farmer actually grew five acres of this hybrid No. 561 and found about twenty borers to one hundred plants, the corn field not showing any apparent damage from the borer, whereas the farmer's own corn, a commercial variety, was badly injured by the borer and had some eighty corn borers per one hundred plants. This strain will only be suited for the southern part of Michigan, having been developed from inbred lines that were adapted for the more southern part of the state. Most of this work has been done at our corn borer station in Monroe, Michigan, since 1926. However, we are working on developing hybrid strains for the more northern sections of Michigan and hope within the very near future to have strains that will be suitable for all our corn regions of the state.

Synthetic Hybrid No. 10 was able to resist the borer much better than our commercial varieties. In the engravings herewith are shown a second year's test of Synthetic Hybrid No. 10 compared to the commercial corn. I think these pictures alone will demonstrate the ability of this hybrid to withstand the ravages of the corn borer in comparison to our commercial varieties. I do not have any

similar pictures of Hybrid No. 561 itself as we did not have this strain artificially infested last year.

## Progress and Komar Spring Wheats

Unfortunately much of the winter wheat grown in the spring-wheat section of Illinois is of inferior quality owing to yellow berry kernels.

The leading varieties of spring wheat at DeKalb include Progress, Illinois 1A, and Illinois 1B. At Urbana the better varieties are Komar, Reward, and Garnet. The best of these in bread-making quality are Progress and Komar. For 7 years Progress yielded an average of 26.3 bus. per acre.

Komar, one of the best varieties on the Urbana field, was introduced into the Illinois plot trials in 1933. This wheat is the product of a cross between Kota and Marquis, made by the North Dakota Agricultural Experiment Station. At Urbana this variety responded to the dry conditions of the past season exceptionally well. Komar also has a good yield record in tests reported by the Iowa Agricultural Experiment Station. The quality of the flour of this wheat has not been determined in the laboratory at Illinois, but it is believed that it would be high, since it is a cross between two varieties both of which have high quality.

Progress is a consistently high-yielding wheat. Baking tests with flour from Progress show it to be very good, ranking as high as Marquis in this respect.

## Apex and Thatcher Wheats

The Dominion of Canada Rust Research Laboratory has crossed and recrossed scores of varieties of grains in an effort to find kernels immune to the plant parasite and at the same time having high-grade milling and baking qualities. Two types were developed—one by crossing the famous Marquis wheat with a durum variety known as Pentad, the other from a cross between Marquis and Reward on a derivative of a Marquis-Emmer cross. Several thousand bushels chiefly of these two types will be ready for distribution next spring in two to four bushel lots. To prevent exploitation the federal Department of Agriculture will retain control of distribution. Rust research will continue.

Two of the new strains are called Apex and Thatcher. A third experimental type is identified as 716. These were all tested thoroly last summer in districts most gravely affected by the plague and in general they proved a little better in yield than Marquis in areas free from rust, much better in the rust areas.

Tests at Kelso, for example, produced Apex weighing 59.6 pounds to the bushel and giving 24.2 bushels to the acre, grading No. 2 Northern, while in adjoining plots Marquis, attacked by rust, yielded only seven bushels to the acre, weighing 34.6 pounds to the bushel, graded as feed.

According to the experimenters if these new varieties had been planted generally in the rust areas for the 1935 crop, Canadian wheat production would have been increased by 100,000,000 bushels.

Inositol, from which explosives can be made, has been developed as a new product of corn by the University of Iowa, utilizing the water in which the corn has been steeped for starch manufacture.

The department of internal revenue is presenting data to the federal grand jury on income tax payments by Arthur W. Cutten in an attempt to show that Mr. Cutten's income was larger than stated, for the years 1929, 1930 and 1933, and that he should have paid \$100,000 more in taxes.



At Left, Commercial Corn; at Right, Hybrid No. 10. Both Had Large Quantities of Young Borers Deposited by Hand.

Four Ears of Maize Amargo Hybrid No. 561 Taken from a Field Resistant to Corn Borer.



## How to Test Seeds

Radio address by MISS MAXINE WILKES, seed analyst, sponsored by California Seed Council.

A complete test consists of three parts: a purity test, determination of the vitality or germination, and an examination of the entire sample for noxious weed seeds.

The percentage of pure seed is the actual amount of the seed under consideration. It may be shriveled or off-color, but it is still pure seed. If there is five per cent of one or more other crop seeds present it is considered a mixture and the lot must be labeled as such. Crop seed is defined as any other seed grown on a field scale. By giving the percentage of crop seed and naming each in the sample, the consumer will not be fooled by an adulteration of a closely resembling seed crop. The percentage of inert tells the purchaser the amount of useless material, for instance, in grass seed how much of the bulk is chaff, or, in others the amount of broken seed or dirt.

The percentage of weed seed is always very important. Each seed is named and the number to the pound computed. This identification of weed seeds is perhaps the most important part of a purity test. Some of the worst weeds are known in different localities under four or five common names, so it is necessary that the identification be given in the scientific name. For the seed firms selling in other countries, and even in other states this is most important, because of the various seed laws. In some states it is against the law to sell a lot of seed containing a certain weed seed, while in another state it is not even considered a weed. So, in order for a firm to make interstate shipments, it is important that they know the correct identification by scientific name of all weed seeds in the lot. It is also a great help to the wholesale dealer in recleaning a lot, for the processes of removing weed seed vary according to the size, weight, and shape of the seed. This identification also tells the seriousness of the infestation. It tells if the seed is an annual, which is relatively easy to control, or a perennial, which usually causes more trouble.

The next consideration is the noxious weed content, for which a larger sample is exam-

ined. By noxious weed I meant here the eighteen weeds named in our State Agricultural Code which have been designated as the most troublesome and dangerous weeds of our state. These weed seeds should be known to everyone dealing with seed here. They are not difficult to recognize, and in buying bulk lots it is extremely valuable to tell if they are present.

The germinating ability and vitality of any seed is perhaps the most important point, for, certainly, if it will not grow into a normal plant it is of no value. Seed control stations and seed testing laboratories in different countries have developed methods for testing each particular kind of seed. They sometimes vary, but we find that seed varies, also, depending upon the season and weather conditions at the time of harvest. However, the general rules for germination can easily be followed. The essential conditions are sufficient moisture, temperature control, and aeration. Almost all seed laboratories use seed germinators, which are large cabinets with thermostatic controls for temperatures and also moisture controls. Some have greenhouses or make soil tests in the laboratory. This has the advantage in testing the ability of seeds to develop into plants, but space and time usually make it impossible to treat all seeds this way, so artificial methods are necessary. Then the analyst must be able to determine if the seedling is capable of continued growth. The seeds are counted indiscriminately from the pure seed separation and are placed on moist substratum. Then the tests are put in the suitable temperature for that particular kind of seed. We all know that some plants require warmer days than others, and so do seeds. The usual temperature range is between twenty and thirty-five degrees Centigrade. Most kind of seeds will complete their germination within a certain number of days, and a schedule of the time has been worked out for normal growth. The variation is wide; for bluegrass the germination period is thirty days; for alfalfa, five days.

Fairly accurate germination tests of the usual crop seeds can be made in the home. For flower tests and grasses special equipment is necessary. When a detailed test is desired it can be obtained at your state seed testing laboratory or other laboratories adequately equipped to render this service. However, everyone dealing in seeds should become familiar with certain ones and be

able to recognize them as weeds. In this way one can know the quality of seed being planted.

## Growing Seed Peas in the Pacific Northwest

By F. K. HASKELL

Cultivation of seed peas modestly undertaken as a means of deriving some revenue from wheat land that lies as summer-fallow every other year in the great Palouse district of the State of Washington, has now developed into a major activity.

The Washburn-Wilson Seed Co. at Moscow, Ida., operates a seed-breeding farm of 700 acres and is steadily introducing and developing new varieties. It has growers under contract in Oregon, Washington, Idaho, Montana and Wyoming. The Crites-Moscow Growers' Ass'n also operates in the Moscow territory. The harvested crop is cleaned and hand picked and employment is given to 100 people during the rush season.

Joseph Zeb of the Moscow-Idaho Seed Co. has been a pioneer in the pea industry of the Inland Empire. He operates a split pea mill at Moscow that can process 200,000 pounds every 24 hours. At the peak he employs 50 people and the plant operates night and day. His warehouse can store 4,500,000 pounds of peas.

The Inland Empire Seed Co. reports a pea acreage in the Garfield, Wash., vicinity of about 8,000 acres, which is about a 35 per cent increase since 1932. This company is equipped to process either commercial peas or seed peas.

A special cutter bar and reel attached to a combine, the invention of Hume & Love, Garfield, Wash., has aided the pea industry in the northwest. There has been an 85 per cent gain in acreage sown to peas in Washington and Idaho over a period of four years. Starting in 1931 in a small way, this company's factory now covers more than 15,000 square feet of floor space.

In economics it's silly to talk of a planned world unless you can control the weather. Without that power, you can limit the maximum production by destroying the surplus, but you can't guarantee a minimum harvest. Nature is a field on which you can fence only one side.—John Erskine.

## Imports of Forage Plant Seeds

Imports of forage plant seed during February and during the 8 months prior to Mar. 1, 1936, and 1935, as reported by the Bureau of Plant Industry, have been as follows, in pounds:

	—February—		July 1 to Feb. 29	
	1936	1935	1935-36	1934-35
Alfalfa .....	17,000	.....	17,000	104,800
Bluegrass, Can. 25,100	600	.....	117,000	87,200
Brome, smooth 75,400	31,000	.....	417,200	271,400
Clover, alsike.. 11,200	.....	.....	11,200	700
Clover, crimson 55,000	.....	.....	2,148,800	196,700
Clover, red .....	11,600	.....	.....	52,900
Clover, white.. 144,700	62,200	.....	999,800	873,200
Grass, orchard. 72,700	30,500	.....	446,600	124,900
Millet, foxtail.. .....	612,900	.....	280,500	758,400
Rape, winter... 599,900	1,321,700	.....	6,333,200	7,269,000
Ryegrass, Italian .....	2,000	100	29,900	32,000
Ryegrass, perennial .....	25,400	77,900	326,600	375,300
Timothy .....	.....	525,000	600	2,403,200
Vetch, hairy .. .....	.....	.....	1,550,400	21,800
Bentgrass .....	200	100	21,700	8,100
Bluegrass, rough .....	18,400	14,800	372,000	253,500
Bromegrass .. .....	.....	4,000	.....	4,000
Clover, suckling .....	.....	.....	47,200	14,600
Dogtail, crested .....	1,300	600	18,100	11,400
Fescue, chewings .....	63,900	57,300	365,600	575,500
Fescue, other.. 6,100	28,600	.....	67,500	28,900
Grass, carpet .....	.....	.....	300	9,600
Grass, Dallis.. .....	.....	5,100	19,100	30,500
Grass, molasses .....	5,000	.....	5,000	.....
Grass, rescue .. 1,400	.....	.....	12,000	3,400
Grass, Rhodes.. 500	.....	.....	5,700	8,900
Grass, Sudan.. .....	713,100	.....	206,100	2,382,300
Medick, black.. .....	.....	.....	31,100	8,200
Millet, Japanese .....	158,500	.....	.....	283,500
Wheatgrass, crested .....	3,000	2,400	74,300	2,700
Wheatgrass, slender .....	2,000	.....	3,500	96,900

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# Feedstuffs

**Chicago, Ill.**—The Midwest Section of the American Ass'n of Cereal Chemists held its regular monthly dinner meeting at the Civic Opera Building, Mar. 2, when Dr. T. F. Gallagher, Department of Bio-Chemistry, University of Chicago, spoke on, "Some Biological Effects of Sterol Metabolism."

**Cottonseed hulls** have given good results when fed in rations that are properly balanced with grains and cottonseed meal supplementing a good pasture, or when fed during the wintering period in connection with silage or a good quality hay. The special advantage in using some hulls as roughage is that hulls are practically free from dust or trash and can be fed with little waste. One hundred pounds of cottonseed hulls contain 35 pounds of total digestible nutrients.

**Bills** have been introduced in Congress to control sardine fishing in the ocean outside of the 3-mile state limit, in the interest of the 54 plants on the Pacific Coast now turning out fish meal and fish oil, by taxing the ocean plants 50 cents per ton, the same as those on land, and requiring compliance with regulations of the state outside of which they are anchored. It is argued that the floating plants in time will deplete the future supply of pilchards, leaving only enough for food canners and but little refuse for feed meal and oil.

**Cane fodder** is establishing itself more and more as one of the standard roughages in Colorado feedlots, because of difficulties encountered during late years in maintaining stands of alfalfa. Substituting cane fodder for alfalfa hay in a standard beet by-product ration decreased gain 30.8 pounds per head but also decreased cost of gain 82 cents per cwt. Each ton of cane, supplemented with 31.55 pounds of refuse lime, replaced 2,813.44 pounds of alfalfa but required 91.22 pounds more corn, 91.22 pounds more barley, 19.89 pounds more cottonseed cake, 772.29 pounds more wet beet pulp, and 1.37 pounds more salt. With feed prices used, each ton of cane was worth \$15.14, or showed 108.14 per cent the value of alfalfa hay, as reported by the Colorado Exp. Sta.

## Adulteration and Misbranding

Amos H. Ronck and Carl D. Bevis of the Ronck & Bevis Co., Philadelphia, Pa., each were fined \$12.50 on the charge of having adulterated fish meal with salt and ground shells, and of having misbranded their "Provegmin."

The Guthrie Cotton Oil Co., Guthrie, Okla., pleaded guilty to having misbranded cottonseed screenings as containing 43 per cent protein and was fined \$25 and costs.

The Terminal Oil Mill Co., Oklahoma City, Okla., was fined \$5 after pleading guilty to misbranding and short weight. The product in three shipments contained less than the specified 43 per cent protein; and each of a large number of sacks of a fourth shipment contained less than the stated 100 pounds net.

## Feed Movement in February

Receipts and shipments of feedstuffs at the various markets during February, compared with February, 1935, in tons, were:

	Receipts		Shipments	
	1936	1935	1936	1935
*Baltimore .....	2,874	2,778	.....	.....
*Boston .....	609	634	20	50
*Chicago .....	6,282	5,817	26,373	20,091
†Kansas City .....	3,925	2,600	22,025	19,775
*Milwaukee .....	1,155	80	7,840	6,040
*Minneapolis .....	2,046	1,266	35,331	24,137
†Portland, Ore. ....	.....	.....	11	16
*Millfeed. †Bran and shorts.				

## Buffalo Host to Northeastern Feed Manufacturers

Consideration of traffic problems and election of new officers was the most important business before the annual meeting of the Northeastern Ass'n of Feed Manufacturers at the Hotel Buffalo, Buffalo, N. Y., Feb. 27.

RALPH FIELD, executive vice-pres. of the American Feed Manufacturers Ass'n, Chicago, described ass'n efforts to have present burdensome emergency freight rates on mixed feeds cancelled. Kenneth C. Ivins, of Philadelphia's Commercial Exchange, expressed expectation that his organization would protest the emergency rates.

THE ASS'N adopted a resolution providing for a permanent com'te, composed of five traffic managers from member companies, who will report to the board of directors on traffic problems and offer recommendations. To this com'te Pres. Geo. E. Todd, Buffalo, appointed: J. F. Lepine, Buffalo, N. Y.; John D. Mummert, Lancaster, Pa.; J. F. Lonergan, Ralph Wychoff, and Arthur A. Greene, Buffalo.

A recommendation was adopted that the members of the organization subscribe to the principles of fair trade practice as adopted by the American Feed Manufacturers Ass'n.

ELECTION of officers placed: Geo. E. Todd, Buffalo, N. Y., pres.; J. A. Trinley, Linfield, Pa., first vice-pres.; Earl S. Ackerman, Albany, N. Y., second vice-pres.; W. E. Ashe, Buffalo, N. Y., sec'y-treas. Directors: J. A. Trinley, and Lloyd Hedrick, Buffalo; L. A. Riford, Cayuga, N. Y.; Geo. E. Todd, C. C. Lewis, Earl S. Ackerman, and William E. Ashe, Buffalo.

## Feed Imports and Exports

Imports and exports of feedstuffs during December and during the year 1935, compared with 1934, as reported by the Bureau of Foreign and Domestic Commerce, were as follows, in tons of 2,000 lbs.:

	IMPORTS		EXPORTS	
	December 1935	1934	December 1935	1934
Hay .....	125	2,514	204	250
Coconut cake, meal... 2,112	6,647	51,171	.....	3,705
Soybean cake, meal... 1,676	4,782	53,731	28,047	10,140
Cottonseed cake, meal... 109	8,075	29,871	302	.....
Linseed cake, meal... 1,320	679	10,489	.....	79
All other cake, meal... 82	40	4,913	.....	3,933
Wheat feeds .....	25,241	33,785	25,542	637
Tankage .....	3,449	1,266	4,476	96
Fish scrap, meal.... 6,385	5,468	31,193	2,882	3,061
Hay .....	.....	.....	274	103
Cottonseed cake .....	.....	.....	99	290
Linseed cake .....	.....	.....	151	433
Other oil cake .....	.....	.....	721	1,023
Cottonseed meal .....	.....	.....	.....	4,412
Linseed meal .....	.....	.....	3,255	584
Other oil meal .....	.....	.....	.....	49,806
Fish meal .....	.....	.....	.....	52,319
Mixed dairy feeds....	.....	.....	.....	.....
Mixed poultry feeds..	.....	.....	.....	.....
Other mixed feeds....	.....	.....	.....	.....
Other feed, bran....	.....	.....	.....	.....
Kafir, milo, bus....	.....	.....	.....	.....
Oyster shell .....	.....	.....	.....	.....

## California Dealers Will Meet

I. J. Stromnes, hustling secretary of the California Hay, Grain & Feed Dealers Ass'n, writes, "Our twelfth annual convention will be held in the Biltmore Hotel, Los Angeles, April 23, 24 and 25."

"The manager of the Globe Grain Milling Co., Los Angeles, Harry N. Laine, has been appointed by our president, Mr. R. J. Smith, as general convention chairman. Mr. Laine on all occasions when the convention has been held in his metropolis, has served usually as a financial chairman and always with exceptional success. Naturally, we look for him to repeat this year, and indications point to one of the greatest conventions we have ever had."

"The convention will open Thursday afternoon, April 23, with conferences between commodity groups and our committee on permanent feed regulations. Mr. L. M. Jeffers, chief bureau of field crops and in charge of the feed law, will meet with this com'te during the afternoon and evening and the meeting will be open to all trade factions. We expect permanent regulations to be formally presented to our convention on Friday."

"Prof. Taylor of the Division of Poultry Husbandry, University of California, will bring research experiments and report on these at the convention. A round table conference will be held with Mr. Taylor, and we look for some interesting reports on current research concerning mortality and poultry feeding."

"Tentative speakers already arranged for will include federal representatives from the farm credits administration, also experts on markets and finance."

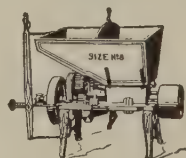
"According to Mr. Laine, this year's convention will be at the Biltmore. The banquet will be held in the Biltmore Bowl, nationally known as a mecca for those seeking choice entertainment, marvelous cuisine, and exceptional environment. Our banquet will be informal which is forgivable in view of the expected large attendance."

"This year, dealers will be invited to bring their wives, as there is no excuse for not participating in dancing with the apt help of a splendid orchestra."

## BOWSHER Crush Grind Feed Mills Mix

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## Vitamin A in Animal Nutrition

By T. S. SUTTON before feed dealers at Ohio Exp. Station.

Much work has been done demonstrating the necessity of vitamin A in the rations of farm animals. However, it has been only recently that a clear understanding of the results of the deficiency of vitamin A have been fully understood and attempts made to determine, quantitatively, the amount of vitamin A necessary.

In 1928, Hughes and his co-workers demonstrated the necessity of vitamin A in the ration for swine. When pigs were kept on a diet consisting of white corn, tankage, and bone ash for about 13 months, they showed symptoms which were characterized by impaired vision, incoordination of movements and spasms or convulsions. If forced to remain on this sort of diet, the pigs soon died. These disorders could be prevented by including cod liver oil, butterfat, yellow corn, or alfalfa meal in the diet.

California investigators have described acute vitamin A deficiency disease among range cattle receiving grain hays and barley for feed. The characteristics of the disease are night blindness and reproductive disturbances in breeding stock; dead or weak calves which soon die when allowed to suckle thin, vitamin A deficient dams; young animals showed eye disorders, emaciation, diarrhea, and usually died with pneumonia.

It is no longer held that cottonseed meal is poisonous to dairy cattle. Symptoms of the so-called "cottonseed meal poisoning in cattle" can be produced on rations containing no cottonseed meal. The real cause of this nutritional disorder is now believed to lie in the roughage portion of the ration, and evidence has been produced to show that a deficiency of vitamin A is, at least in part, the contributing factor.

Vitamin A requirements for chickens may be met by allowing abundant green feed or the incorporation of some material high in vitamin A in the ration. Between 1 and 2 per cent of cod liver oil may be used for this purpose, or approximately 1 per cent of sardine oil. It should be remembered, however, that vitamin A is easily oxidized and these oils will rapidly lose their potency when mixed with ground feed. Various methods of preservation of vitamin A in ground feeds have been attempted. Miller reports that vitamin A potency of cod liver oil in a feed mixture can be preserved by mixing the oil with cottonseed meal before incorporating it in the feed. Another useful source of vitamin A in the ration of both poultry and swine is alfalfa meal or alfalfa leaf meal. It should be remembered, however, that conditions which cause the loss of green color in alfalfa meals or alfalfa leaf meals also cause the loss of vitamin A activity. In other words, the vitamin A activity of these materials can be gauged with some degree of accuracy by the depth of the green color. Artificial dehydration of hays has been shown to be of value in preserving vitamin A activity. In the field curing of hay as much as 80 per cent of vitamin A activity may be lost in 24 hours. Early cutting hays are higher in vitamin A, other things being equal, than are hays more mature when harvested. It has been shown that machine dried alfalfa hay may contain anywhere from two to 10 times as much vitamin A as field cured alfalfa.

It must be recognized that the vitamin A activity of materials used for live-stock feeding may vary widely, and that average figures should be used only as guides and not as specific values. The accompanying table of vitamin A values may be used as such a guide. These values, with the exception of the first three, have been calculated from carotene determinations appearing in the literature. Assuming that the carotene values published represent amounts of pure beta carotene, the unit values have been determined by applying the value of the international unit, which is .6 gamma of pure beta carotene. This procedure may be open to criticism; however, the same mathematical procedure was used in each instance and the comparative values should be reasonably accurate. The actual value of

any particular lot of material can only be determined by an assay for carotene or vitamin A activity.

Feedstuff	International Units of Vitamin A per pound
Alfalfa leaf meal.....	50,000
Yellow carrots.....	50,000
Cod liver oil.....	500,000
Fresh green alfalfa.....	226,000
Fresh Kentucky blue grass.....	394,000
Dehydrated alfalfa hay.....	95,000
Alfalfa hay No. 1.....	31,000
Alfalfa hay No. 2.....	10,000
Alfalfa hay No. 3.....	5,000
Timothy hay No. 1.....	14,000
Timothy hay No. 2.....	6,000
Timothy hay No. 3.....	6,000
Green corn silage.....	69,000
Corn fodder.....	3,000
Yellow corn.....	4,000
Wheat straw.....	1,500

## Use Small Amount of Dry Milk in Hog Feed

Eleven pounds of liquid skim milk may be dried to form 1 pound of the dry product. When this drying is properly done, all of the nutritive value of the liquid skim milk has been preserved.

Bohstedt and Fargo of the University of Wisconsin have compared liquid skim milk with dry skim milk and also with equal parts of dry skim milk and tankage as a supplement to ground corn. Linseed meal and alfalfa hay were also fed. They found that all three of the lots gained about alike. They also found that where the dry skim milk was a part of the protein supplement it was more valuable than when the skim milk was all of the protein supplement. Furthermore, they say as follows: "This single trial, therefore, indicates that if dry skim milk is to be used as a hog feed it should be used in small amounts only, along with some other protein feeds, rather than as the main protein supplement in an ordinary grain ration. It also appears that this milk product has a higher value for small or weanling pigs than for well grown shotes."

## Mandatory Cod Liver Oil Tests Sought by Feed Men

To broaden the appeal of the Eastern Federation of Feed Merchants to the feed dealers, the annual meeting at the Onondaga hotel, Syracuse, N. Y., Feb. 29, changed the by-laws to specify that all directors must be bona fide retail feed dealers, and reduced the dues from \$20 per annum to \$10. Over 40 members attended the one-day session.

F. C. CAMPBELL, Odessa, N. Y., led a demand that New York State pass legislation providing mandatory tests on cod liver oil, and was supported by all present, members claiming that feed merchants in other states have an advantage in such legislation.

An announcement was made that feed salesmen in the eastern area will organize at a meeting in Utica, N. Y., Mar. 24.

A business clinic was conducted during the morning session, which considered feed management and selling problems.

NEW DIRECTORS elected are: Fred C. Campbell, Odessa, N. Y.; A. J. Thompson, Wycombe, Pa.; T. P. Gaines, Sherburne, N. Y.; Fred C. Wooley, Boonville, N. Y., and J. H. Gray, Springville, N. Y. At the directors' meeting Mr. Thompson was named pres.; Bruce Hall, Cooperstown, N. Y., was made first vice-pres., and Mr. Gray was made second vice-pres. A sec'y-treas. and another director will be elected at the next meeting of the directors.

**Smutty wheat** can be used in poultry feeds, even to the extent of one-third of the wheat in the mixture.

**Careful study** of costs would undoubtedly show many a country elevator operator the road to increased earnings.

**Carryover** of wheat July 1 will be 135,000,000 bus. according to an estimate given out Mar. 7 by the Bureau of Agricultural Economics.

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## LACTO-PHYL vs. DRIED MILKS

Dried Milks, recognized for its feeding value due to the high digestibility of its proteins, the vitamins A and G, and the fine type of minerals. A product to replace milks should carry the same requirements.

Lacto-phyll, a product of the Syntha-Milk Laboratories, is this one product that carries a highly digestible protein content, vitamins A, G and B, and organic minerals of the highest type of digestibility.

Further—dried milks as such carry

no iron or iodine, two complementary substances most needed in any milk ration.

Lacto-phyll is built to meet that very definite need of the feed and mixing trade and without superfluous ingredients that bear no relation to milks, without inorganic minerals, or products of low food values.

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# Poultry Feeds and Feeding

**Menno, S. D.**—There will be lots of poultry raised here this spring, as feeds are ample this year.—Menno Milling & Grain Co.

**Chicago, Ill.**—Federal licensing of poultry handlers at Chicago became effective Mar. 4 under the packers and stockyards act. More regulation and more bureaucrats.

**Lafayette, Ind.**—Plans are now well under way for the 28th annual Purdue Egg Show and the fourth Baby Chick Show to be held at Purdue University May 6, 7, 8. This exhibit, which is the leading show of its kind in the country, is to be held in the Poultry Building on the Purdue campus.

**St. John, Wash.**—The Inland Empire Milling Co. has bought 20 acres to be developed into a poultry farm as a side line. Wallace Johnson will continue in charge of the poultry department. The plan is to buy day-old chicks and, after brooding them at the plant, to sell them at various ages from two weeks to six weeks old. The land purchase enables doubling its last year's brooding capacity.

**Washington, D. C.**—The average number of hens and pullets of laying age per farm flock, which increased from a low point of 58.6 on Sept. 1 last up to 80.6 birds on Jan. 1, had receded by Feb. 1 to 79 birds. Numbers were still about 11 per cent below the February 1 average for the 5 years 1928-1932. The number of layers on February 1 is slightly less than on January 1 in all sections excepting the Northeastern and South Central areas where slight increases are shown. Numbers usually show but little decrease, and sometimes there is increase, during January.—U.S.D.A.

## Cottonseed Hulls O. K. for Making Hen Nests

An old belief, apparently prevalent in cotton-growing sections of the United States, is that cottonseed hulls used for nesting material lowers the hatchability of hen's eggs because oil in the hulls gets on the eggs. Results recently obtained at the Southwest Poultry Experiment Station of the United States Department of Agriculture, Glendale, Ariz., do not support this belief.

Hulls were used for nests at the station for several years without any apparent detrimental results. Then, in order to obtain more exact

information, tests were conducted in which the hatchability of eggs laid on cottonseed hulls was compared with the hatchability of eggs laid on straw.

Eggs laid on hulls even hatched a little better, altho the difference was not great enough to be significant.

## Kafir and Milo for Poultry

By LOYAL F. PAYNE

In feeding experiments with poultry by the Kansas Station it was found that the nutritive value of kafir and milo is about equal and that both of these grain sorghums may give as good or better results than white corn or yellow corn and wheat when fed at the rate of 50 per cent of the total ration. An important fact to keep in mind is that all grains used in these experiments were of excellent quality at the time they were fed.

It should also be remembered that both sorghum and white corn are deficient in vitamin A and unless this important vitamin supplements rations composed largely of these grains, feeding results will not be satisfactory. This vitamin can be supplied adequately in the form of green succulent feed or as alfalfa leaf meal. The results from vitamin-A-deficient grains properly supplemented compare very favorably with rations in which yellow corn, which contains this vitamin, is used as the principal grain.

## Lime and Phosphoric Acid Requirements for Chicks

An experiment run in duplicate by the Texas Exp. Station showed that with rations containing ground kafir, alfalfa leaf meal, dried buttermilk, oyster shell, and bone meal, chicks receiving 2.03% lime and 1.58% phosphoric acid (which is lime to phosphoric acid in a ratio of 1: .78), gained better than those receiving 1.63% lime and 1.27% phosphoric acid (which is the same lime-phosphoric acid ratio of 1: .78). Chicks receiving 1.63% lime and 1.27% phosphoric acid made better gains than those receiving the same amount of lime and 1.58% of phosphoric acid. In this case the lime-phosphoric acid ratio is 1: .95.

When wheat gray shorts were used in the ration, the ration containing the 2.03% lime and 1.58% of phosphoric acid gave the best gains, but the ration which gave second best gains was the one containing 1.63% of lime and 1.58% of phosphoric acid, and the ration giving the poorest gains was the one containing 1.63% of lime and 1.27% of phosphoric acid, with a lime-phosphoric acid ratio of 1: .78. This indicates that the requirements are different in different rations and that other factors and other minerals may be involved in this problem.

## Feed Costs Leave Feeders Good Margin

The most favorable milk-feed ratio during December and January since December 1932 was reported by dairy farmers recently. Liberal quantities of hay and concentrates are being fed to milk cows and for the past month they were reported to have been receiving 4.49 pounds per cow in herd compared with only 3.24 pounds a year ago and 4.20 pounds as the 5-year average. The cost of a standard dairy ration in Wisconsin during January was \$10.61 per thousand pounds, which is considerably lower than the price a year ago.

Since last fall Wisconsin poultry producers have had a very favorable egg-feed price relationship, and in spite of a larger than usual seasonal decline in egg prices from December to January, the February relationship was the most favorable since 1933. Ten dozen eggs on Jan. 15 would buy 172 pounds of poultry

ration compared with 147 pounds a year earlier.

Hay supplies this year are the largest reported since 1929 and the lowest in price since 1898, and there has been a considerable amount of soft corn available at low prices. Cattle feeding operations this year are about 43 per cent above a year ago. Many Wisconsin farmers who had not previously fed cattle for market bought some this year to utilize their surplus feed supplies.—Wisconsin Dept. of Agriculture.

## HATCHABILITY—

is increased 10% to 15%, egg production is improved, when breeding flocks are fed

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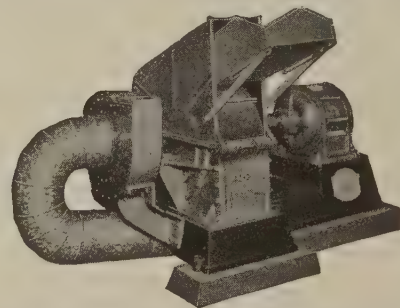
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By Harry M. Lamon & Alfred R. Lee

A book of 247 pages (14 chapters, 23 illustrations), designed to meet the needs of all interested in feeds for poultry. Grains, rations and methods used in every section of the U. S. are discussed.

Part I is devoted to the principles of feeding, explains which elements have been found essential in feeding poultry and tells why certain combinations are made. Every grain or feed-stuff used for poultry is discussed in Part II. Rations for every class of poultry keepers are included in Part III.

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		Minneapolis Spot		Kansas City	
		Bran	Midds	Bran	Shorts
Jan. 11	....	16.25	16.50	15.25	19.40
Jan. 18	....	15.50	16.75	15.50	19.60
Jan. 25	....	15.25	15.25	15.25	19.50
Feb. 1	....	15.00	15.50	15.00	18.80
Feb. 8	....	15.50	16.00	15.45	19.50
Feb. 15	....	15.50	16.00	16.00	20.00
Feb. 21	....	16.50	16.50	15.90	20.50
Feb. 29	....	16.00	16.50	15.25	19.25
Mar. 7	....	16.00	16.25	15.10	18.25
		St. Louis		Chicago, Soy	
		Bran	Shorts	Beans	Meal
Jan. 11	....	17.00	20.30	87	25.90
Jan. 18	....	17.50	20.60	85	25.40
Jan. 25	....	17.20	20.25	85	24.90
Feb. 1	....	16.65	19.65	84	24.40
Feb. 8	....	17.00	20.00	84	23.90
Feb. 15	....	17.30	20.50	84	24.00
Feb. 21	....	17.40	20.85	85	23.40
Feb. 29	....	17.25	20.30	85	23.40
Mar. 7	....	16.90	19.15	84	23.40
		Cottonseed Meal		Denver	
		Ft. Worth	Memphis	Alfalfa	Corn
Jan. 11	....	25.00	21.50	21.00	..
Jan. 18	....	24.50	21.50	21.00	61
Jan. 25	....	23.50	21.00	21.00	61
Feb. 1	....	23.50	20.50	21.00	61
Feb. 8	....	23.50	20.50	21.00	61
Feb. 15	....	23.50	20.50	21.00	62
Feb. 21	....	24.00	21.50	21.00	62
Feb. 29	....	24.00	20.50	21.00	63
Mar. 7	....	24.00	20.50	21.00	62½



## Vitamin D Requirements of Chickens

Chickens grown in the absence of sunlight and not fed a vitamin D supplement develop rickets and crooked breasts, their bones do not calcify normally, and they make poor growth. These troubles can be avoided if a sufficient quantity of vitamin D is included in the ration. This may be done by feeding fish oils which contain vitamin D, such as puffer fish oil, cod liver oil, salmon oil, and sardine oil, or by building brooder houses with sun porches so that the chickens may run in the sunlight which is the equivalent of vitamin D. They may be allowed to run on free range where they will get the equivalent of vitamin D from the sunlight. The equivalent of vitamin D may also be provided by irradiating the feed, by subjecting the chicks to ultraviolet light, or by feeding irradiated ergosterol.

The object of this study by the Texas Agricultural Exp. Sta., as reported in its recent Bulletin No. 521, is to determine how much vitamin D will be required in rations fed chicks which do not have access to sunlight. Most poultrymen use one of the above-mentioned fish oils to furnish their chicks vitamin D. The fish oil manufacturers make recommendations as to how much of the oil should be fed to insure the chicks against rickets, crooked breast bones, and poor growth. The poultrymen try to feed a balanced ration, and the fish oil manufacturers' recommendations may be too high for such a ration. These fish oils are expensive and should not be fed in excess of the requirements of the chicken. When this study was begun, no data were available as to the quantity of vitamin D needed by growing chicks, but there has been considerable work reported since. For the solution of the problem it is necessary to know how much vitamin D the chick requires, how much of the antirachitic substance the chick can get from the ration, and how much of a vitamin D supplement will be required to supply the vitamin D needed to meet the requirements of the growing chickens. Such knowledge may result in a great saving for the poultryman in feeding growing chicks, since the vitamin D supplement is one of the most expensive ingredients he has to buy.

Four rations which differed somewhat in their ingredients so as to represent different feeds and which differed in their calcium and phosphorus content were fed to chickens.

The rations and cod liver oils used were analyzed for vitamin D by the lime test.

For the first six weeks even in the absence of sunlight chickens fed a ration with the proper amounts of calcium and phosphorus apparently need no additional vitamin D to make good growth.

The vitamin D requirement of the cockerel appears to be higher than that of the pullet.

The vitamin D requirements of chickens vary with the particular factor taken into consideration in deciding upon the effect of the vitamin D supplied. Gain in weight required more vitamin D than any one of the other factors studied.

The number of units of vitamin D required by growing chickens appears to depend upon the nature of the ration, especially the percentages of calcium and phosphorus contained in it.

Chickens fed a ration containing 1.48 per cent calcium and 0.65 per cent phosphorus required 12.3 International units of vitamin D from cod liver oil per 100 grams of feed for maximum growth and best utilization of the feed, and 3.1 International units of vitamin D from cod liver oil per 100 grams of feed for the prevention of rickets and crooked breast bones and the calcification of the bones at twelve weeks.

Chickens fed a ration containing 0.96 per cent calcium and 0.66 per cent phosphorus required up to twelve weeks 50.2 International units of vitamin D from cod liver oil per 100 grams of feed for maximum growth, best utilization of the feed, and calcification of the bones, and 12.3 International units of vitamin D from

cod liver oil per 100 grams of feed for the prevention of rickets and crooked breast bones. This high vitamin D requirement was probably due to the low calcium content of this ration.

Chickens fed a ration containing 1.26 per cent calcium and 0.77 per cent phosphorus required up to 12 weeks 6.7 International units of vitamin D from cod liver oil per 100 grams of feed for maximum growth, prevention of crooked breast bones, best utilization of the feed, and calcification of the bones, and 3.4 International units of vitamin D from cod liver oil per 100 grams of ration for the prevention of rickets. The maximum level of vitamin D may not have been fed with this ration.

Chickens fed a ration containing 1.36 per cent of calcium and 0.78 per cent phosphorus required up to twelve weeks 6.7 International units of vitamin D from cod liver oil per 100 grams of feed for maximum growth and calcification of the bones and 3.4 International units of vitamin D from cod liver oil per 100 grams of feed for the prevention of rickets and crooked breast bones and for the best utilization of the feed. The maximum level of vitamin D may not have been fed with this ration.

## Oats for Brood Sows

B. C. C. CULBERTSON, of Iowa State College.

Some good protein supplement is necessary for the best development of the pigs. One-fourth to one-half gallon of skim milk per sow per day is probably the best protein for brood sows, but this product is not usually available in large enough amounts. Tankage fed at the rate of about .4 pound per sow daily or soybeans fed at the rate of approximately .8 pound per sow per day makes a good protein feed. Around .6 pound per day per sow of soybean oilmeal is another protein supplement that is suitable for pregnant sows.

Cheap oats make it desirable to include this grain in the ration of the brood sow. Feeding 2 pounds of oats per day per sow along with enough corn to keep the sows in good condition will help farmers to utilize efficiently the feed they have on hand.

The amount of corn necessary for best condition varies upward from about 2½ pounds per sow daily, depending on her weight and present condition. A legume hay, such as alfalfa or leafy soybean hay, should be accessible to the pregnant sows at all times. This is best pro-

vided in racks but can be distributed on the ground if racks are not available.

With a well balanced ration, including a mineral mixture, and adequate exercise brood sows should stay in top condition and produce strong pigs.

## Hay Movement in February

Receipts and shipments of hay at the various markets during February, compared with February, 1935, in tons, were:

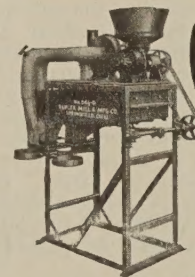
	Receipts		Shipments	
	1936	1935	1936	1935
Baltimore .....	25	82	64	121
Boston .....	451	814	...	...
Chicago .....	1,105	5,563	199	4,220
Ft. Worth .....	33	...	...	...
Kansas City ....	5,988	8,292	3,972	5,172
Minneapolis ....	80	8,007	13	1,279
Portland, Ore. ...	712	141	...	...
Seattle .....	121	88	...	...

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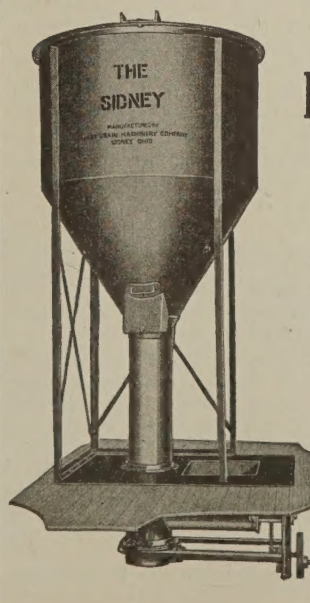
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## Livestock Census Shows Cattle Increase

The number of sheep on farms and ranches as of Jan. 1, 1935, just announced by the Bureau of the Census, was 48,357,506, of which 34,000,286, or 70.3 per cent, were ewes 1 year old and over. Since the Apr. 1, 1930, census showed 56,975,084, of which 54 per cent were ewes over 18 months old, the five-year period showed a decline of 8,617,578 or 17.8 per cent in the numbers of sheep, and an increase of 3,205,050, or 10.4 per cent in the numbers of breeding ewes. Texas was the leading sheep state with 7,026,543 head, or 14.5 per cent of the domestic total.

The number of hogs was 37,212,967, or 66 per cent of the 56,287,920 five years before. The greatest decline was evident in western Corn Belt states, where the effects of the drought were most severe. This section showed practically the only reduction in the number of sows to farrow, contributing the total decline of this class of 21 per cent. Increases in hog production in Cotton Belt states were reported. Iowa continued to rank first in hog production with an average of 31 hogs per farm reporting.

Cattle numbers showed an increase of 7 per cent, the census giving a total of 68,284,409 compared with 63,895,826 head on farms as of Apr. 1, 1930. The numbers of breeding stock showed an increase of 30.3 per cent. Increases were relatively greatest in the Southeastern and Gulf Coast areas.

## Swine Rations

By J. S. COFFEY of Ohio State University

The fundamentals of a good swine fattening ration are involved in (1) The provision of a palatable efficient carbohydrate concentrate which at current prices is relatively cheap in price. Furthermore, it is important that this part of the feed be low in fiber content. I question the advisability of using a swine fattening ration which contains more than 5 per cent fiber. These are the feeds generally considered suitable for this part of the ration: corn, hominy feed, wheat, rye, oats and barley. It is very doubtful if any one of the last three named should be used exclusively as the carbohydrate part of the ration, with the possible exception of barley.

(2) The provision of a palatable efficient protein and mineral supplement. In a general way, it may be said that the dry protein concentrate makes up approximately 8 to 10 per cent of the ration, while minerals constitute from 1 to 2 per cent. The commonly used protein concentrates are milk products, tankage, fish meal, soybeans, soybean oil meal, linseed oil meal, peanut meal and cottonseed meal. Aside from the milk products, which do not yield themselves so well to combinations, the feeds named above may be combined in various proportions to give efficiency. It is questionable if any dry protein supplement should contain less than 25 per cent protein.

As to the minerals, the three ingredients of greatest value to the hog are calcium, phosphorus and salt. In Ohio we commonly combine these ingredients in the proportion of 40-40-20 respectively.

(3) The provision of an adequate vitamin D content in the feed. The use of yellow corn in the carbohydrate part of the ration and bright leafy alfalfa in the protein mineral supplement usually are sufficient to meet vitamin requirements.

Finally, permit me to say that the feed dealers of the country can be of great service to the hog feeders if they will familiarize the latter with these simple fundamentals of feeding. Such information, diplomatically given, is the service you owe to your clients. It, in turn, builds the approach to the thing closest to your hearts, namely, feed sales.

Re-inspection of Iowa corn sealed under government loan has been extended from Mar. 15 to Apr. 1, final on account of bad roads.

## Quality of Fish Meals

A series of experiments dealing with the effect of method of manufacture on the nutritive value of nonoily fish meals have been completed recently in the laboratories of the United States Bureau of Fisheries, Gloucester, Mass., the Ohio Agricultural Experiment Station, Wooster, O., and the Cornell University Agricultural Experiment Station, Ithaca, N. Y.

The fish meals of the nonoily class are generally known in commerce as white-fish meals. The raw materials are the trimmings from haddock, cod, cusk, hake, pollock, and flounder, accumulated during the preparation of packaged fresh and frozen products, salt fish, and smoked fish.

The nutritive value of fish meal prepared from haddock, cod, and similar fish wastes is influenced by the process of manufacture, the method of drying and the portion of the waste used.

The removal of water-soluble protein material by the wet process has little effect on the ultimate efficiency of the protein, but decreases the vitamin G value.

High drying temperatures are detrimental to the quality of the protein and vitamin G value of nonoily fish meals, altho the effect upon vitamin G is more pronounced.

With similar raw materials, the effect of manufacture on nutritive value is due more to the effect on vitamin G than to the effect on the protein quality.

The head portion of the waste is richer in vitamin G than the backbone portion, but the protein of the latter is of higher quality.

In view of the effect of manufacture on nutritive properties, dry-process meals dried at low temperature should have greater utility in animal feeding.

Flame-dried nonoily fish meals are of inferior quality in every respect, according to the Bureau of Fisheries Report No. 30, and may be expected to disappear from commerce when profitable methods of producing high-quality meals are developed.

The mechanical difficulties encountered in drying nonoily fish wastes without removal of the water-soluble extractives can be reduced materially by careful control of steam pressure and vacuum.

Under optimum conditions of dry rendering, the cost of reducing a ton of waste is greater for the dry process than for the wet process. The meal yield by the dry process, however, is greater. On the basis of the lowest recorded price for white-fish meals, the extra meal more than compensates for the higher cost of production. With higher meal prices, the advantage of the dry process increases.

The cost of preparing steam- and vacuum-dried wet-process meals is practically equal. The same is true of their nutritive values.

The dry process of manufacture, when controlled under the conditions determined in the investigation, has distinct advantage over the wet process in small-scale operations. This method of reduction represents a possible solution of the problem of utilizing small accumulations of waste.

Since proteins are quite stable under moderate conditions of drying, more so than vitamin G, the possibility for future improvement in the quality of meals prepared by more refined methods of manufacture would be expected to be confined largely to vitamin G value.

Since water-soluble extractives are removed and discarded in the manufacture of oily fish meals, these products cannot be expected to be as important sources of vitamin G as dry-rendered nonoily fish meals.

In the preparation of wet-process meals, both oily and nonoily, vacuum drying should have no appreciable advantage over steam drying, either from the standpoint of quality of meal or cost of production.

In the preparation of dry-process nonoily meals, the conditions required for most efficient operation are most conducive to improvement in nutritive value.

The moisture changes in standing grain (Reward and Marquis wheat and O.A.C. 21 barley) during and after the ripening period were studied at the Universities of Manitoba, Saskatchewan, and Alberta in 1932-33 to obtain information on the problem of combine harvesting. Considerable attention was paid to temperature, humidity, sunshine, rainfall, and wind velocity. Grain was found to be fit for binding 4 to 17 days earlier than for straight combining. There was no evidence that fully ripened grain at moisture contents of 11 to 13 per cent could absorb enough moisture at night, due to relative humidity, to exceed 14.4 per cent and become tough. The rate of moisture loss in wet mature grain was much greater than the moisture loss in immature grain thru the same range.

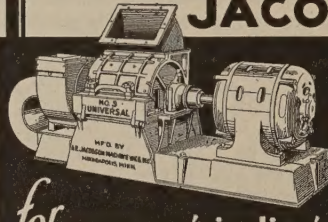
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By L. M. Hurd

This revised and enlarged edition is right up-to-date and contains all important discoveries in poultry raising made in recent years.

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## A Well Equipped Elevator and Feed Mill

The Farmers' Elevator & Mercantile Co. at Owatonna, Minn., has rebuilt its elevator and built a complete new feed mill building fitted with a complete line of grinding and mixing equipment as illustrated herewith. Mr. Norman Johnson, the present manager, has handled the business for this company for over 20 years.

The company operates two elevators and two complete feed mill units. It has large warehouses for handling feeds of all kinds and handles a large amount of coal, twine, salt, flour and other side lines.

The buildings at the main plant on the C. M. & St. P. R. R. right-of-way consist of a large brick fire proof office building, which is divided into rooms and fitted with modern fixtures. Located in front of this office is a Fairbanks-Morse 20 ton, 24' scale, having a concrete deck, which gives service for retailing coal and other such commodities.

In the new driveway at the elevator a 20 ton truck scale was installed for receiving grain to the elevator and the feed mill. This is a Fairbanks-Morse 26' dumpscale fitted with two modern air dumps. A large receiving pit at the elevators has  $\frac{1}{4}$ " steel tank. The two legs installed in the elevator have 11x6 D.P. buckets on five ply rubber belt and are fitted with double distributors and improved head drives.

A Carter cleaner on the workfloor is served by the various bins. A dust house was provided to serve the cleaner.

On the east side of the elevator a large new warehouse was erected for the storage of feeds. Over the driveway at the elevator a group of bins were provided for service to the mill building and to customers' trucks in the driveway.

Concrete foundations and a full basement were provided under the buildings and the whole new structure, aside from the office, was covered with galvanized iron laid over 35 lb. felting on the walls and roofs. Two ounce coating was used in the galvanized iron, all of the iron being No. 26 gauge.

The mill building is attached to the driveway of the elevator and has an office located between the elevator driveway and the feed mill building for customers' convenience and this office has a room provided for scale beams, testers, etc.

A large assortment of bins in the feed mill service the various machines on the workfloor. Legs are provided in the mill for distribution to and from the bins, the owners being able to serve the mill building bins from two different sides.

A large two story warehouse was built between the office building and the main feed mill the first floor being used as a sales and stock room and the second floor for storage.

On the workfloor in the feed mill building an attrition mill fitted with two 25 H.P. motors was installed. An oat huller was placed on the workfloor for serving the trade. A storage room on the side of this feed mill building was provided for oat hulls. A 60 bushel hopper scale for transferring and serving bins in the elevator and the feed mill was installed in the mill building. A 2000 lb. mixer was hung on the ceiling of the mill building.

Bulk bins were provided for bulk loading into a driveway, which is enclosed and attached to the feed mill building. Two corn crackers with a grader were installed for making chick feeds and special mash bins were provided. Sack holders and special sacking apparatus were provided.

A manlift was provided in the elevator for service to the two floors in the cupola and a manlift was provided in the feed mill building to serve its cupola floors. A hammer mill is located in the basement for pulverizing and for handling ear corn.

On the side of the building a large loading platform with an awning over same was provided for serving the trade to and from the mill and warehouse buildings. A Howe platform scale was built in the floor for handling truck loads in the warehouse. The interior of the mill building, including all spouting and equipment was painted with three coats of white enamel. This set of buildings and equipment

covers the installation of the most up-to-date feed mill in the state.

Mr. Johnson, the manager, has four assistants at this plant, as well as a bookkeeper. Their business has increased each year since Mr. Johnson has been in charge and the company is one of the prosperous farmer organizations.

In addition to the buildings described above this company operates another elevator and complete feed mill unit 100' distance from the new set of buildings, which they will continue to operate as two separate units. The plant was designed and erected by T. E. Ibberson Co.

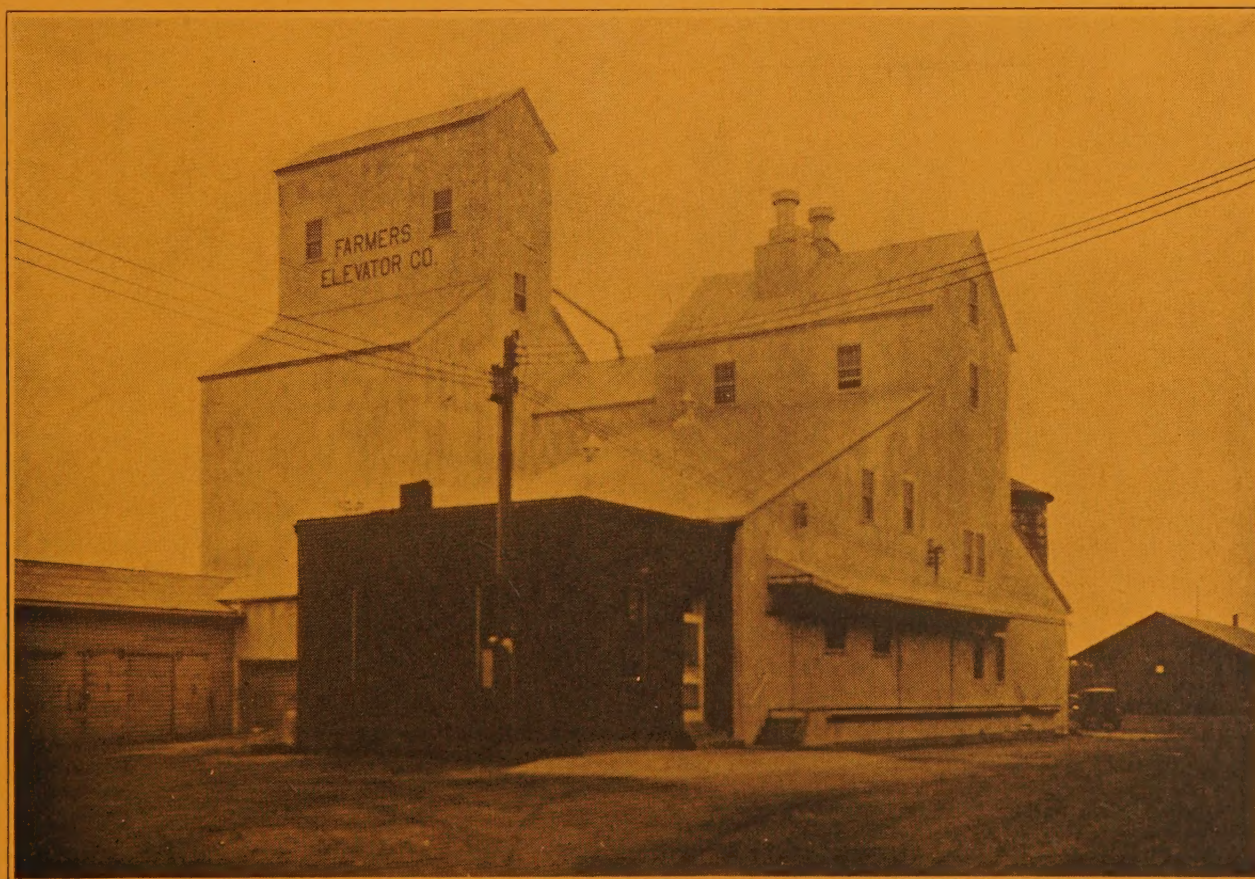
## The Casement Farm Policy

Addressing the Executives Club at Chicago recently Captain Dan D. Casement, who operates a 3,500-acre ranch near Manhattan, Kan., assailed the notion that public money distributed to farmers would aid recovery by enlarging purchasing power. Temporarily it permits the man receiving the money to buy more, he said, but "to exactly the same extent, those who earned it and turned it over to the government in taxes must buy less."

His program to improve the farmer's condition follows:

1. Take agriculture out of politics and stop looking to government for help.
2. Tend your own business.
3. Practice thrift, economy, and industry.
4. Produce all you can.
5. Make the economic law of supply and demand operate in your interest by buying as little as possible until urban prices come down.
6. Improve marketing methods and the quality of your product.
7. Reduce production costs.

Several soybean oil crushing plants have developed an exchange basis, whereby they trade meal for whole soybeans, as a means of developing trade with farmers over a large producing and consuming area. The use of trucks have made the plan successful.



Elevator and Feed Mill of The Farmers Elevator & Mercantile Co., Owatonna, Minn.





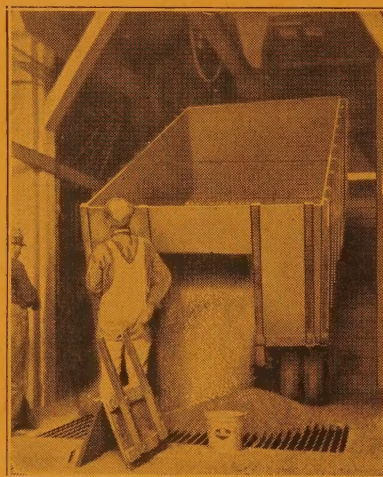
*HOWE 30-ton Dump Scale installation at the Farmers National Grain Corporation, Morris, Illinois.*

# The Largest Dump Scale

The two illustrations show the largest dump scale in the State of Illinois. It is a HOWE, 30 tons capacity, with a platform 32 feet long and 10 feet wide, capable of weighing the long semi-trailer and trailer trucks coming into such general use for hauling grain.

Notice that the entire platform lifts—an unusual feature.

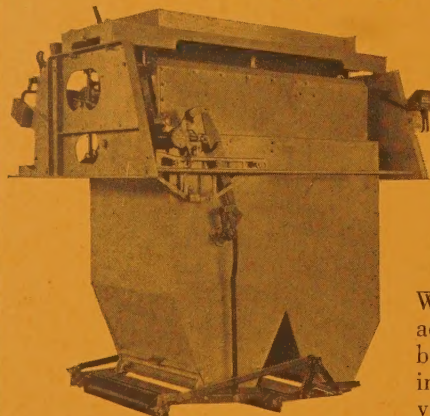
Equipped with a full-capacity HOWE Recording Beam, a printed ticket is provided that insures an accurate, reliable and quick-weighing operation.



Ask the HOWE salesman for details, or write to The Howe Scale Company, Dept. J3, Rutland, Vermont; Chicago, Cincinnati, Cleveland, Kansas City, Minneapolis, St. Louis and San Francisco.

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## Spontaneous Ignition of Grain Dust

is always a fire hazard in the grain elevator and feed mill.

Reports to us indicate an increased fire hazard in storing damp dust from the grain of the last crop. Dust should not be allowed to accumulate or remain in your plant.

We recommend extreme vigilance. Aerate your dust house and keep your plant clean.

### Mutual Fire Prevention Bureau

Department of  
Association of Mill and Elevator Mutual Insurance Companies.

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